



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

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**Eric J. Holcomb**  
Governor

**Bruno L. Pigott**  
Commissioner

To: Interested Parties

Date: August 30, 2019

From: Jenny Acker, Chief  
Permits Branch  
Office of Air Quality

Source Name: Cook Incorporated

Permit Level: FESOP Renewal

Permit Number: 105-40744-00030

Source Location: 6300 North Matthews Drive, Ellettsville, IN 47429

Type of Action Taken: Permit Renewal

## Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the matter referenced above.

The final decision is available on the IDEM website at: <http://www.in.gov/apps/idem/caats/>  
To view the document, choose Search Option **by Permit Number**, then enter permit 40744.

The final decision is also available via IDEM's Virtual File Cabinet (VFC). Please go to: <http://www.IN.idem.gov> and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

*(continues on next page)*

If you would like to request a paper copy of the permit document, please contact IDEM's Office of Records Management:

IDEM - Office of Records Management  
Indiana Government Center North, Room 1207  
100 North Senate Avenue  
Indianapolis, IN 46204  
Phone: (317) 232-8667  
Fax: (317) 233-6647  
Email: [IDEMFILEROOM@idem.in.gov](mailto:IDEMFILEROOM@idem.in.gov)

Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room N103, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



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# Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

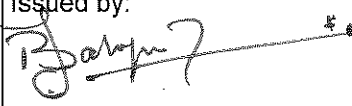
**Cook Incorporated  
6300 North Matthews Drive  
Ellettsville, Indiana 47429**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F 105-40744-00030	
Master Agency Interest ID: 11774	
Issued by:  Josiah K. Balogun, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 30, 2019  Expiration Date: August 30, 2029

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**Attachment A: Ethylene Oxide Emissions Standards for Sterilization Facilities NESHAP [40 CFR Part 63, Subpart O]**

**Attachment B: Stationary Reciprocating Internal Combustion Engines NESHAP][40 CFR 63, Subpart ZZZZ]**

## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-8-3(b)]

---

The Permittee owns and operates a stationary medical device manufacturing and sterilization operation.

Source Address:	6300 North Matthews Drive, Ellettsville, Indiana 47429
General Source Phone Number:	(812) 339-2235
SIC Code:	3841 (Surgical and Medical Instruments and Apparatus)
County Location:	Monroe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program
	Minor Source, under PSD
	Minor Source, Section 112 of the Clean Air Act
	Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

---

This stationary source consists of the following emission units and pollution control devices:

- (a) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01.
- (b) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, constructed in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to three (3) non-regenerable dry bed reactors, which exhaust through one (1) stack, identified as SV02.
- (c) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01.  
  
[Nine (9) ethylene oxide sterilization chambers (S1-S9) and fourteen (14) aeration rooms, (HC1-HC14 are existing affected facilities under 40 CFR 63, Subpart O.]
- (d) Miscellaneous cleaning with isopropyl alcohol (IPA), methanol and ethanol.
- (e) One (1) diesel-fired emergency generator, identified as Unit #1, installed on July 31, 2003 and constructed in 2010, with a maximum capacity of 1850 hp, with emissions

uncontrolled, and exhausting to the atmosphere.

[The diesel-fired emergency generator, identified as Unit #1 is an existing affected facility under 40 CFR 63, Subpart ZZZZ.]

- (f) One (1) diesel-fired emergency generator, identified as Unit #2, installed on November 19, 2003 and constructed in 2010, with a maximum capacity of 2922 hp, with emissions uncontrolled, and exhausting to the atmosphere.

[The diesel-fired emergency generator, identified as Unit #2 is an existing affected facility under 40 CFR 63, Subpart ZZZZ.]

### A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Slipcoating operations consisting of the mixing and coating of medical devices with solids mixed with isopropyl alcohol and water, isopropyl alcohol and methylene chloride, or ethanol to create a hydrophilic surface which is cured by ultraviolet light.
- (b) The following storage containers:
- (1) nine (9) 100% ethylene oxide storage cylinders with a maximum storage capacity of 400 pounds of ethylene oxide each (3,600 pounds total). These are portable cylinders that will be connected to the sterilization process.
  - (2) nine (9) 100% ethylene oxide storage cylinders each with a maximum storage capacity of 400 pounds of ethylene oxide on standby for connection to the sterilization process as cylinders are emptied.
  - (3) up to four (4) additional 100% ethylene oxide storage cylinders each with a maximum storage capacity of 400 pounds of ethylene oxide to be stored on site.
- (c) Three (3) liquor storage tanks, identified as Tanks A, B, and C, each with a working storage capacity of 5,870 gallons, all venting to the wet acid pre-scrubber, exhausting through one (1) stack, identified as HV01.
- (d) Gluing, heat forming, tapering, marking and printing operations associated with manufacturing activities and product assembly, exhausting through building exhausts and one (1) stack, identified as S10.
- (e) Natural gas fired combustion sources including the following:

Emission units	Construction Date	ID	Heat Input Capacity (MMBtu/hr)	
NG boiler	2003	C241-F	2.1349	uncontrolled, exhausting to stack
NG boiler	2003	C242-F	2.1349	uncontrolled, exhausting to stack
NG boiler	2006	C230-F	1.68	uncontrolled, exhausting to stack
NG boiler	2006	C231-F	1.68	uncontrolled, exhausting to stack
NG boiler	2006	C233-F	0.85	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B001	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B002	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B003	4.00	uncontrolled, exhausting to stack
Total			20.48	



- (f) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (g) Application of oils, greases, lubricants, or other nonvolatile materials applied as temporary protective coatings.
- (h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (i) Closed loop heating and cooling systems;
- (j) Exposure chambers ("towers", "columns"), for curing of ultra-violet inks and ultra-violet coatings where heat is the intended discharge.
- (k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (l) Heat exchanger cleaning and repair.
- (m) Package and Prep operations, exhausting through one (1) stack, identified as S07.
- (n) Heat forming, taping, masking, and printing operations exhausting through various building exhausts.
- (o) ABRM Catheter Impregnation Process consisting of the following:
  - (1) A total of two (2) hoods with six (6) emersion tanks per hood and two (2) wells per tank for a total of 24 wells, with a total capacity of 2930 cubic inches and an average weekly usage of 27.5 liters of solvent and antibiotic solution.
  - (2) A total of three (3) drying hoods for silicon or polyurethane tubes.
  - (3) A total of one (1) formulation and mixing booth, where the immersion solution is mixed, with potential single HAP (Methanol) emissions of 0.75 tons per year and potential VOC emission of 4.04 tons per year.
  - (4) A total of one (1) formulation and mixing booth for butyl acetate addition and mixing with a potential VOC emission of 0.67 tons per year.
- (p) Paclitaxel Treatment Process consisting of the following:
  - (1) One (1) raw materials mix hood;
  - (2) Two (2) Paclitaxel treatment booths; and
  - (3) Four (4) Paclitaxel aeration booths.with potential VOC emissions of less than 15 pounds per day for each booth.

#### A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

## B.1 Definitions [326 IAC 2-8-1]

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- ### B.3 Term of Conditions [326 IAC 2-1.1-9.5]

B.4 Enforceability [326 IAC 2-8-6][IC 13-17-12]

#### B.5 Severability [326 IAC 2-8-4(4)]

**B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]**

## B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

- Cook114 Non-CBI 00075

**B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]**

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- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
  - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

**B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]**

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- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:
- Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
  - (2) The compliance status;
  - (3) Whether compliance was continuous or intermittent;
  - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
  - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]**

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IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

**B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]**

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(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The

PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**B.12 Emergency Provisions [326 IAC 2-8-12]**

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- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ or Southeast Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,  
Compliance and Enforcement Branch), or  
Telephone Number: 317-233-0178 (ask for Office of Air Quality,  
Compliance and Enforcement Branch)  
Facsimile Number: 317-233-6865  
Southeast Regional Office phone: (812) 358-2027; fax: (812) 358-2058.

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
  - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
  - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
    - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
    - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

**B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]**

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- (a) All terms and conditions of permits established prior to F 105-40744-00030 and issued pursuant to permitting programs approved into the state implementation plan have been either:

- (1) incorporated as originally stated,
- (2) revised, or
- (3) deleted.

(b) All previous registrations and permits are superseded by this permit.

**B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination  
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

---

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)]. The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
  - (1) That this permit contains a material mistake.
  - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
  - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

**B.16 Permit Renewal [326 IAC 2-8-3(h)]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

**B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]**

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- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

**B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]**

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- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) without a prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
  - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
  - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);



- (4) The Permittee notifies the:

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region 5  
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

- (b) Emission Trades [326 IAC 2-8-15(b)]  
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(b).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]  
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

**B.19 Source Modification Requirement [326 IAC 2-8-11.1]**

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A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

**B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]**

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- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:  
  
Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

**B.22 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-8-4(6)][326 IAC 2-8-16][326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

**B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314][326 IAC 1-1-6]**

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For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

**C.1 Particulate Emission Limitations for Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

**C.2 Overall Source Limit [326 IAC 2-8]**

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

**C.3 Opacity [326 IAC 5-1]**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A,

Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1][IC 13-17-9]

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The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2][326 IAC 9-1-2]

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The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

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The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Stack Height [326 IAC 1-7]

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The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.8 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

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- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

#### **Testing Requirements [326 IAC 2-8-4(3)]**

##### **C.9 Performance Testing [326 IAC 3-6]**

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- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

## **Compliance Requirements [326 IAC 2-1.1-11]**

### **C.10 Compliance Requirements [326 IAC 2-1.1-11]**

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

## **Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]**

### **C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]**

- (a) For new units:  
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.
- (b) For existing units:  
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

### **C.12 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]**

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

## **Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

### **C.13 Risk Management Plan [326 IAC 2-8-4][40 CFR 68]**

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

**C.14 Response to Excursions or Exceedances [326 IAC 2-8-4][326 IAC 2-8-5]**

---

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and/or
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

**C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]**

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- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).



## **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

### **C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5]**

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- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

- (AA) All calibration and maintenance records.
- (BB) All original strip chart recordings for continuous monitoring instrumentation.
- (CC) Copies of all reports required by the FESOP.

Records of required monitoring information include the following, where applicable:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
- (BB) The dates analyses were performed.
- (CC) The company or entity that performed the analyses.
- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

### **C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)][326 IAC 2-1.1-11]**

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

- (b) The address for report submittal is:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

### **Stratospheric Ozone Protection**

#### **C.18 Compliance with 40 CFR 82 and 326 IAC 22-1**

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Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Facility Description [326 IAC 2-8-4(10)]:

- (a) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01.
- (b) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, constructed in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to three (3) non-regenerable dry bed reactors, which exhaust through one (1) stack, identified as SV02.
- (c) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01.

[Nine (9) ethylene oxide sterilization chambers (S1-S9) and fourteen (14) aeration rooms, (HC1-HC14 are existing affected facilities under 40 CFR 63, Subpart O.]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.1.1 Volatile Organic Compounds (VOC) BACT [326 IAC 8-1-6]

Pursuant to FESOP F105-8436-00030, issued on February 16, 1998, and in order to render the requirements of 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities), the following control technology will also serve as the Best Available Control Technology (BACT) for the sterilization operations S1 through S7. The control technology used to comply with the requirements of 40 CFR 63.360 through 63.367, which apply to the sterilization process, in addition to the following:

- (a) A single nonregenerable dry bed reactor to reduce ethylene oxide emissions to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent, to control the seven (7) sterilization chamber exhaust vents, identified as units S1 through S7.
- (b) A wet acid pre-scrubber with three (3) dry bed reactors (in parallel) to reduce ethylene oxide emissions to a maximum concentration of 1 ppmv or by at least 99 percent whichever is less stringent, to control emissions from the fourteen (14) aeration rooms.

Compliance with the above limit in this condition shall satisfy the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements).

Note: The source will not be required to operate the dry bed reactor to control emissions from the sterilization chamber exhaust vents (back vents) from the two (2) sterilizers S8 and S9, approved for construction in 2012. Although S8 and S9 are not subject to the requirements of 326

IAC 8-1-6, the Permittee voluntarily installed three (3) dry bed reactors (in parallel) to reduce emissions from the back vents from sterilizers S8 and S9.

**D.1.2 Hazardous Air Pollutants (HAPs) Minor Limits [326 IAC 2-8-4]**

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Pursuant to 326 IAC 2-8, the total ethylene oxide emissions from the nine (9) ethylene oxide sterilization chambers and the fourteen (14) aeration rooms shall be less than 9.42 tons per twelve (12) consecutive month period, total, with compliance determined at the end of each month

Compliance with the above limit, combined with the potential to emit ethylene oxide from other emission units at the source, shall limit the ethylene oxide from the entire source to less than 10 tons per year, total HAPs to less than twenty-five (25) tons per year and render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

**D.1.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

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A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements [326 IAC 2-8-4(1)]**

**D.1.4 VOC and HAPs [326 IAC 8-1-6][326 IAC 2-8-4]**

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- (a) In order to assure compliance with Conditions D.1.1, and D.1.2, the primary wet acid scrubber and the single non-regenerable dry bed reactor shall be in operation and control emissions from the seven (7) ethylene oxide sterilization chambers S1 through S7 at all times the ethylene oxide sterilization chambers are in operation.
- (b) In order to assure compliance with Conditions D.1.1, and D.1.2, the primary wet acid scrubber shall be in operation and control emissions from the two (2) ethylene oxide sterilization chambers S8 and S9 at all times the ethylene oxide sterilization chambers are in operation.
- (c) In order to assure compliance with Conditions D.1.1, and D.1.2, the three (3) dry bed reactors with or without the wet acid pre-scrubber shall be in operation and control emissions from the fourteen (14) aeration rooms at all times the fourteen (14) aeration rooms are in operation.

**D.1.5 Testing Requirements [326 IAC 2-1.1-11][40 CFR Part 63, Subpart O]**

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- (a) Not later than 180 days after the issuance of F105-40744-00030, the Permittee shall perform test on each of the following control devices, in order to demonstrate compliance with Condition D.1.1, Condition D.1.2, and Condition E.1.2:
  - (1) The one (1) primary wet acid scrubber, exhausting to stack PS01, controlling ethylene oxide emissions from the two (2) sterilization chamber S8 through S9;
  - (2) The single non-regenerable dry bed reactor , exhausting to stack SV01, controlling ethylene oxide Chamber Exhaust Vent (CEV) emissions from the seven (7) sterilization chambers S1 through S7;
  - (3) The one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), exhausting to stack HV01, controlling ethylene oxide emissions from the fourteen (14) aeration rooms;

utilizing the procedures listed in 40 CFR 63.7 of Subpart A, the procedures listed in 40 CFR 63.363, the test methods listed in 40 CFR 63.365. During the performance test, the

owner or operator shall determine the efficiency of the control devices and the site-specific operating parameters for each of the wet acid scrubbers and the dry bed reactors. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures).

- (b) Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

#### **Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]**

##### **D.1.6 Monitoring**

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To demonstrate the compliance status with the control efficiency and emission limitations requirements in conditions D.1.1, and D.1.2:

- (a) For the Single Non-Regenerable Dry Bed Reactor and Three (3) Dry Bed Reactors; the Permittee shall comply with the following:
- (1) Monitor and record the number of equivalent sterilization cycles performed while the bed is in service for each of the dry bed reactors; single non-regenerable dry bed reactor controlling ethylene oxide emissions from the seven (7) sterilization chamber exhaust vents (back vents) for units S1 through S7 and the three (3) dry bed reactors controlling ethylene oxide emissions from the fourteen (14) aerations rooms, identified as HC1 through HC14.
  - (2) Keep a record of the number of sterilization cycles run for sterilizer units S1 through S7, convert this to equivalent cycles for a 512 ft<sup>3</sup> sterilizer, and keep a daily running record of total equivalent cycles. The equivalent sterilization cycles shall not exceed 2,917. Each of the dry bed reactor's bed material shall be removed and replaced with fresh reactant once this maximum sterilization cycles is reached.
  - (3) The gas chromatography shall be calibrated, maintained and operated for measuring the outlet concentration from each of the dry bed reactor associated with sterilization chambers (S1-S7) and dry bed reactor associated with the fourteen (14) aerations rooms, identified as HC1 through HC14 once a week. In the event the on-site gas chromatograph malfunctions, arrangements will be made for interim weekly off-site analysis via gas chromatography. This does not relieve the Permittee of the responsibility to properly maintain the on-site gas chromatograph.
- (b) For the Primary Wet Acid Scrubber and Wet Acid Pre-Scrubber:
- The Permittee shall measure and record once per week the level of the scrubber liquor in the single recirculation tank serving both the primary wet acid scrubber controlling sterilization chamber vents and the wet acid pre-scrubber controlling aeration room vents per 40 CFR 63.364(b)(2). The Permittee shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e. a marker on the tank wall, a dipstick, a magnetic indicator, etc.) to ensure the scrubber liquor level remains below the maximum allowable height of 84.75 inches above floor elevation.

When for any one reading the scrubber liquor level range is above the above mentioned maximum height of 84.75 inches, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A reading that is above the above mentioned maximum liquor level is not a deviation from this permit. Failure to take

response steps shall be considered a deviation from this permit.

### **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

#### **D.1.7 Record Keeping Requirements**

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- (a) To document the compliance status with Conditions D.1.1, D.1.2, and D.1.6, the Permittee shall maintain records in accordance with (1) and (6) below. Records of all data and operating parameters shall be complete and sufficient to establish compliance with the limits established in Condition D.1.1, D.1.2, and D.1.6 based on
  - (1) The number of equivalent sterilization cycles performed daily while the single non-regenerable dry bed reactor controlling chamber exhaust vents is in service; and
  - (2) The number of equivalent sterilization cycles performed daily while the three (3) dry bed reactors controlling aeration room exhaust are in service.
  - (3) Permittee shall maintain records of the weekly Ethylene Oxide concentration readings from the dry bed outlets associated with Exhaust SV01.
  - (4) All corrective and preventive maintenance actions taken in association with the ethylene oxide emissions control equipment.
  - (5) All maintenance logs, calibration checks, and other required maintenance activities associated with the ethylene oxide emissions control equipment.
  - (6) The Permittee shall maintain a record of any gas chromatograph downtime associated with the ethylene oxide concentration monitoring system including the following information:
    - (A) Date of monitoring system downtime.
    - (B) Time of commencement and completion of each downtime.
    - (C) Reason for each downtime.
    - (D) Nature of system repairs and adjustments.
- (b) To document the compliance status with Condition D.1.6 (d) shall measure and record once per week the level of the scrubber liquor in the recirculation tank. The Permittee shall include in its weekly record when the readings are not taken and the reason for the lack of the readings (e.g., the process did not operate that day).
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

#### **D.1.8 Reporting Requirements**

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A quarterly summary of the information to document the compliance status with Condition D.1.2 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, within no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment; [326 IAC 6-3-2]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.2.1 Particulate Emission Limitations for manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), (Particulate Emission Limitations for manufacturing Processes), the particulate emissions from the brazing equipment, cutting torches, soldering equipment and welding equipment shall not exceed 0.551 pound per hour.

#### D.2.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

## SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description: Insignificant Activities

(e) Natural gas-fired combustion sources including the following:

Emission units	Construction	ID	Heat Input Capacity (MMBtu/hr)	
NG boiler	2003	C241-F	2.1349	uncontrolled, exhausting to stack
NG boiler	2003	C242-F	2.1349	uncontrolled, exhausting to stack
NG boiler	2006	C230-F	1.68	uncontrolled, exhausting to stack
NG boiler	2006	C231-F	1.68	uncontrolled, exhausting to stack
NG boiler	2006	C233-F	0.85	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B001	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B002	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B003	4.00	uncontrolled, exhausting to stack
Total			20.48	

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

#### D.3.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4, particulate emissions from each individual boiler shall be limited as follows:

Unit ID	PM Emission Limit (lb/MMBtu)
C241-F	0.60
C242-F	0.60
C230-F	0.50
C231-F	0.50
C233-F	0.50
EUN1-HHW-B001	0.44
EUN1-HHW-B002	0.44
EUN1-HHW-B003	0.44

#### D.3.1 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.



## SECTION E.1

## NESHAP

### Emissions Unit Description:

- (a) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01.
- (b) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, constructed in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to three (3) non-regenerable dry bed reactors, which exhaust through one (1) stack, identified as SV02.
- (c) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01.

[Nine (9) ethylene oxide sterilization chambers (S1-S9) and fourteen (14) aeration rooms, (HC1-HC14 are existing affected facilities under 40 CFR 63, Subpart O.]]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

#### E.1.1 General Provisions Relating to NESHAP O [326 IAC 20-1][40 CFR Part 63, Subpart A]

- (a) The requirements of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facilities described in this section except as otherwise specified in 40 CFR 63, Subpart O.
- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

#### E.1.2 Ethylene Oxide Emissions Standards for Sterilization Facilities NESHAP [40 CFR Part 63, Subpart O][326 IAC 20-5]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart O (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 20-5, for the emission unit(s) listed above: as follows:

- (1) 40 CFR 63.360,
- (2) 40 CFR 63.361,
- (3) 40 CFR 63.362,
- (4) 40 CFR 63.363(a), (b)(1), (b)(2), (c), (e), (f),

- (5) 40 CFR 63.364(a), (b), (d), (e),
- (6) 40 CFR 63.365,
- (7) 40 CFR 63.366,
- (8) 40 CFR 63.367,
- (9) 40 CFR 63.368.

## SECTION E.2

## NESHAP

### Facility Description [326 IAC 2-8-4(10)]:

- (e) One (1) diesel-fired emergency generator, identified as Unit #1, installed on July 31, 2003 and constructed in 2010, with a maximum capacity of 1850 hp, with emissions uncontrolled, and exhausting to the atmosphere.

[The diesel-fired emergency generator, identified as Unit #1 is an existing affected facility under 40 CFR 63, Subpart ZZZZ.]

- (f) One (1) diesel-fired emergency generator, identified as Unit #2, installed on November 19, 2003 and constructed in 2010, with a maximum capacity of 2922 hp, with emissions uncontrolled, and exhausting to the atmosphere.

[The diesel-fired emergency generator, identified as Unit #2 is an existing affected facility under 40 CFR 63, Subpart ZZZZ.]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

### National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

#### E.2.1 General Provisions Relating to NESHAP ZZZZ [326 IAC 20-1][40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

#### E.2.2 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [326 IAC 20-82][40 CFR 63, Subpart ZZZZ]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii)
- (4) 40 CFR 63.6640(f)(1), (2)(i), (3), (4)

#### E.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
CERTIFICATION**

Source Name: Cook Incorporated  
Source Address: 6300 North Matthews Drive, Ellettsville, Indiana 47429  
FESOP Permit No.: F 105-40744-00030

**This certification shall be included when submitting monitoring, testing reports/results  
or other documents as required by this permit.**

Please check what document is being certified:

- ☐ Annual Compliance Certification Letter
- ☐ Test Result (specify)\_\_\_\_\_
- ☐ Report (specify)\_\_\_\_\_
- ☐ Notification (specify)\_\_\_\_\_
- ☐ Affidavit (specify)\_\_\_\_\_
- ☐ Other (specify)\_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: (317) 233-0178  
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
EMERGENCY OCCURRENCE REPORT**

Source Name: Cook Incorporated  
Source Address: 6300 North Matthews Drive, Ellettsville, Indiana 47429  
FESOP Permit No.: F 105-40744-00030

**This form consists of 2 pages**

**Page 1 of 2**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none"><li>• The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</li><li>• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-8-12</li></ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: Cook Incorporated  
Source Address: 6300 North Matthews Drive, Ellettsville, Indiana 47429  
FESOP Permit No.: F 105-40744-00030  
Facility: Nine (9) ethylene oxide sterilization chambers and the fourteen (14) aeration rooms  
Parameter: HAP Emission  
Limit: Shall not exceed 9.42 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

QUARTER : \_\_\_\_\_ YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons/yr)	Previous 11 Months (tons/yr)	12 Month Total (tons/yr)

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.

Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Cook Incorporated  
Source Address: 6300 North Matthews Drive, Ellettsville, Indiana 47429  
FESOP Permit No.: F 105-40744-00030

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

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This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

**Permit Requirement** (specify permit condition #)

**Date of Deviation:**

**Duration of Deviation:**

**Number of Deviations:**

**Probable Cause of Deviation:**

**Response Steps Taken:**

**Permit Requirement** (specify permit condition #)

**Date of Deviation:**

**Duration of Deviation:**

**Number of Deviations:**

**Probable Cause of Deviation:**

**Response Steps Taken:**



<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

## Attachment A

### Federally Enforceable State Operating Permit (FESOP) No: 105-40744-00030

[Downloaded from the eCFR on March 21, 2019]

#### Electronic Code of Federal Regulations

#### Title 40: Protection of Environment

#### PART 63— NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

#### Subpart O—Ethylene Oxide Emissions Standards for Sterilization Facilities

SOURCE: 59 FR 62589, Dec. 6, 1994, unless otherwise noted.

#### §63.360 Applicability.

(a) All sterilization sources using 1 ton (see definition) in sterilization or fumigation operations are subject to the emissions standards in §63.362, except as specified in paragraphs (b) through (e) of this section. Owners or operators of sources using 1 ton (see definition) subject to the provisions of this subpart must comply with the requirements of subpart A, of this part according to the applicability of subpart A of this part to such sources in Table 1 of this section.

Table 1 of Section 63.360—General Provisions Applicability to Subpart O

Reference	Applies to sources using 10 tons in subpart O <sup>a</sup>	Applies to sources using 1 to 10 tons in subpart O <sup>a</sup>	Comment
63.1(a)(1)	Yes		Additional terms defined in §63.361; when overlap between subparts A and O occurs, subpart O takes precedence.
63.1(a)(2)	Yes		
63.1(a)(3)	Yes		
63.1(a)(4)	Yes		Subpart O clarifies the applicability of each paragraph in subpart A to sources subject to subpart O.
63.1(a)(5)	No		Reserved.
63.1(a)(6)	Yes		
63.1(a)(7)	Yes		
63.1.1(a)(8)	Yes		
63.1(a)(9)	No		Reserved.
63.1(a)(10)	Yes		
63.1(a)(11)	Yes		§63.366(a) of subpart O also allows report submissions via fax and on electronic media.
63.1(a)(12)-(14)	Yes		

63.1(b)(1)-(2)	Yes		
63.1(b)(3)	No		§63.367 clarifies the applicability of recordkeeping requirements for sources that determine they are not subject to the emissions standards.
63.1(c)(1)	Yes		Subpart O clarifies the applicability of each paragraph in subpart A to sources subject to subpart O in this table.
63.1(c)(2)	Yes		§63.360(f) exempts area sources subject to this subpart from the obligation to obtain Title V operating permits.
63.1(c)(3)	No		Reserved.
63.1(c)(4)	Yes		
63.1(c)(5)	No		§63.360 specifies applicability.
63.1(d)	No		Reserved.
63.1(e)	Yes		
63.2	Yes		Additional terms defined in §63.361; when overlap between subparts A and O occurs, subpart O takes precedence.
63.3	Yes		Other units used in subpart O are defined in the text of subpart O.
63.4(a)(1)-(3)	Yes		
63.4(a)(4)	No		Reserved.
63.4(a)(5)	Yes		
63.4(b)	Yes		
63.4(c)	Yes		
63.5(a)	No		§63.366(b)(1) contains applicability requirements for constructed or reconstructed sources.
63.5(b)(1)	Yes	No	
63.5(b)(2)	No		Reserved.
63.5(b)(3)	No		See §63.366(b)(2).
63.5(b)(4)	Yes	No	
63.5(b)(5)	Yes	No	
63.5(b)(6)	Yes	No	
63.5(c)	No		Reserved.
63.5(d)(1)-(2)	No		See §63.366(b)(3).
63.5(d)(3)-(4)	Yes	No	
63.5(e)	Yes	No	
63.5(f)(1)-(2)	No		See §63.366(b)(4).
63.6(a)(1)	Yes		
63.6(a)(2)	No		§63.360 specifies applicability.
63.6(b)-(c)	No		§63.360(g) specifies compliance dates for sources.
63.6(d)	No		Reserved.

63.6(e)	No	Subpart O does not contain any operation and maintenance plan requirements.
63.6(f)(1)	No	§63.362(b) specifies when the standards apply.
63.6(f)(2)(i)	Yes	
63.6(f)(2)(ii)	No	§63.363 specifies parameters for determining compliance.
63.6(f)(2)(iii)-(iv)	Yes	
63.6(f)(2)(v)	No	
63.6(f)(3)	Yes	
63.6(g)	Yes	
63.6(h)	No	Subpart O does not contain any opacity or visible emission standards.
63.6(i)(1)-(14)	Yes	
63.6(i)(15)	No	Reserved
63.6(i)(16)	Yes	
63.6(j)	Yes	
63.7(a)(1)	Yes	
63.7(a)(2)	Yes	
63.7(a)(3)	Yes	
63.7(b)	Yes	
63.7(c)	Yes	No
63.7(d)	Yes	No
63.7(e)	Yes	§63.365 also contains test methods specific to sources subject to the emissions standards.
63.7(f)	Yes	
63.7(g)(1)	Yes	
63.7(g)(2)	No	Reserved
63.7(g)(3)	Yes	
63.7(h)	Yes	
63.8(a)(1)	Yes	
63.8(a)(2)	Yes	
63.8(a)(3)	No	Reserved
63.8(a)(4)	Yes	
63.8(b)(1)	Yes	
63.8(b)(2)	Yes	
63.8(b)(3)	No	
63.8(c)(1) (i)-(ii)	No	A startup, shutdown, and malfunction plan is not required for these standards.
63.8(c)(1)(iii)	Yes	
63.8(c)(2)-(3)	Yes	

63.8(c)(4)-(5)	No	Frequency of monitoring measurements is provided in §63.364; opacity monitors are not required for these standards.
63.8(c)(6)	No	Performance specifications for gas chromatographs and temperature monitors are contained in §63.365.
63.8(c)(7)(i)(A)-(B)	No	Performance specifications for gas chromatographs and temperature monitors are contained in §63.365.
63.8(c)(7)(i)(C)	No	Opacity monitors are not required for these standards.
63.8(c)(7)(ii)	No	Performance specifications for gas chromatographs and temperature monitors are contained in §63.365.
63.8(c)(8)	No	
63.8(d)	Yes	No
63.8(e)(1)	Yes	
63.8(e)(2)	Yes	
63.8(e)(3)	Yes	No
63.8(e)(4)	Yes	
63.8(e)(5)(i)	Yes	
63.8(e)(5)(ii)	No	Opacity monitors are not required for these standards.
63.8(f)(1)-(5)	Yes	
63.8(f)(6)	No	
63.8(g)(1)	Yes	
63.8(g)(2)	No	
63.8(g)(3)-(5)	Yes	
63.9(a)	Yes	
63.9(b)(1)-(i)	Yes	
63.9(b)(1)(ii)-(iii)	No	§63.366(c)(1)(i) contains language for sources that increase usage such that the source becomes subject to the emissions standards.
63.9(b)(2)-(3)	Yes	§63.366(c)(3) contains additional information to be included in the initial report for existing and new sources.
63.9(b)(4)-(5)	No	§63.366(c)(1)(ii) and (iii) contains requirements for new or reconstructed sources subject to the emissions standards.
63.9(c)	Yes	
63.9(d)	No	
63.9(e)	Yes	
63.9(f)	No	Opacity monitors are not required for these standards.
63.9(g)(1)	Yes	

63.9(g)(2)-(3)	No	Opacity monitors and relative accuracy testing are not required for these standards.
63.9(h)(1)-(3)	Yes	
63.9(h)(4)	No	Reserved.
63.9(h)(5)	No	§63.366(c)(2) instructs sources to submit actual data.
63.9(h)(6)	Yes	
63.9(i)	Yes	
63.9(j)	Yes	
63.10(a)	Yes	
63.10(b)(1)	Yes	
63.10(b)(2)(i)	No	Not applicable due to batch nature of the industry.
63.10(b)(2)(ii)	Yes	
63.10(b)(2)(iii)	No	
63.10(b)(2)(iv)-(v)	No	A startup, shutdown, and malfunction plan is not required for these standards.
63.10(b)(2)(vi)-(xii)	Yes	
63.10(b)(2)(xiii)	No	
63.10(b)(2)(xiv)	Yes	
63.10(b)(3)	No	§63.367 (b) and (c) contains applicability determination requirements.
63.10(c)(1)	Yes	
63.10(c)(2)-(4)	No	Reserved.
63.10(c)(5)	Yes	
63.10(c)(6)	No	
63.10(c)(7)	No	Not applicable due to batch nature of the industry.
63.10(c)(8)	Yes	
63.10(c)(9)	No	
63.10(c)(10)-(13)	Yes	
63.10(c)(14)	Yes	No
63.10(c)(15)	No	A startup, shutdown, and malfunction plan is not required for these standards.
63.10(d)(1)	Yes	
63.10(d)(2)	Yes	
63.10(d)(3)	No	Subpart O does not contain opacity or visible emissions standards.
63.10(d)(4)	Yes	
63.10(d)(5)	No	A startup, shutdown, and malfunction plan is not required for these standards.
63.10(e)(1)	Yes	

63.10(e)(2)(i)	Yes	
63.10(e)(2)(ii)	No	Opacity monitors are not required for these standards.
63.10(e)(3)(i)-(iv)	Yes	
63.10(e)(3)(v)	No	§63.366(a)(3) specifies contents and submittal dates for excess emissions and monitoring system performance reports.
63.10(e)(3)(vi)-(viii)	Yes	
63.10(e)(4)	No	Opacity monitors are not required for these standards.
63.10(f)	Yes	
63.11	Yes	
63.12-63.15	Yes	

<sup>a</sup>See definition.

(b) Sterilization sources using less than 1 ton (see definition) are not subject to the emissions standards in §63.362. The recordkeeping requirements of §63.367(c) apply.

(c) This subpart does not apply to beehive fumigators.

(d) This subpart does not apply to research or laboratory facilities as defined in section 112(c)(7) of title III of the Clean Air Act Amendment of 1990.

(e) This subpart does not apply to ethylene oxide sterilization operations at stationary sources such as hospitals, doctors offices, clinics, or other facilities whose primary purpose is to provide medical services to humans or animals.

(f) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(g) The owner or operator shall comply with the provisions of this subpart as follows:

(1) All sterilization chamber vents subject to the emissions standards in §63.362 with an initial startup date before December 6, 1998, no later than December 6, 1998.

(2) All sterilization chamber vents subject to the emissions standards in §63.362 with an initial startup date on or after December 6, 1998, immediately upon initial startup of the source.

(3) All sterilization chamber vents at sources using less than 1 ton of ethylene oxide that increase their ethylene oxide usage after December 6, 1998 such that the sterilization chamber vent becomes subject to the emissions standards in §63.362(c), immediately upon becoming subject to the emission standards.

(4) All aeration room vents subject to the emissions standards in §63.362 with an initial startup date before December 6, 2000, no later than December 6, 2000.

(5) All aeration room vents subject to the emissions standards in §63.362 with an initial startup date on or after December 6, 2000, immediately upon initial startup of the source.

(6) All aeration room vents at sources using less than 10 tons that increase their ethylene oxide usage after December 6, 2000, such that the aeration room vents become subject to the emissions standards in §63.362, immediately upon becoming subject to the emission standards.

(7)-(10) [Reserved]

[59 FR 62589, Dec. 6, 1994, as amended at 61 FR 27788, June 3, 1996; 63 FR 66994, Dec. 4, 1998; 64 FR 67793, Dec. 3, 1999; 64 FR 69643, Dec. 14, 1999; 66 FR 55582, Nov. 2, 2001; 70 FR 75345, Dec. 19, 2005]

### **§63.361 Definitions.**

Terms and nomenclature used in this subpart are defined in the Clean Air Act (the Act) as amended in 1990, §§63.2 and 63.3 of subpart A of this part, or in this section. For the purposes of subpart O, if the same term is defined in subpart A and in this section, it shall have the meaning given in this section.

*Aeration room* means any vessel or room that is used to facilitate off-gassing of ethylene oxide at a sterilization facility.

*Aeration room vent* means the point(s) through which the evacuation of ethylene oxide-laden air from an aeration room occurs.

*Baseline temperature* means a minimum temperature at the outlet from the catalyst bed of a catalytic oxidation control device or at the exhaust point from the combustion chamber of a thermal oxidation control device.

*Chamber exhaust vent* means the point(s) through which ethylene oxide-laden air is removed from the sterilization chamber during chamber unloading following the completion of sterilization and associated air washes.

*Compliance date* means the date by which a source subject to the emissions standards in §63.362 is required to be in compliance with the standard.

*Deviation* means any instance in which an affected source, subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limitation (including any operating limit) or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation (including any operating limit) or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Effective date* means the date of promulgation in the FEDERAL REGISTER notice.



*Initial startup date* means the date when a source subject to the emissions standards in §63.362 first begins operation of a sterilization process.

*Manifolding emissions* means combining ethylene oxide emissions from two or more different vent types for the purpose of controlling these emissions with a single control device.

*Maximum ethylene glycol concentration* means any concentration of ethylene glycol in the scrubber liquor of an acid-water scrubber control device established during a performance test when the scrubber achieves at least 99-percent control of ethylene oxide emissions.

*Maximum liquor tank level* means any level of scrubber liquor in the acid-water scrubber liquor recirculation tank established during a performance test when the scrubber achieves at least 99-percent control of ethylene oxide emissions.

*Oxidation temperature* means the temperature at the outlet point of a catalytic oxidation unit control device or at the exhaust point from the combustion chamber for a thermal oxidation unit control device.

*Source(s) using less than 1 ton* means source(s) using less than 907 kg (1 ton) of ethylene oxide within all consecutive 12-month periods after December 6, 1996.

*Source(s) using 1 ton* means source(s) using 907 kg (1 ton) or more of ethylene oxide within any consecutive 12-month period after December 6, 1996.

*Source(s) using 1 to 10 tons* means source(s) using 907 kg (1 ton) or more of ethylene oxide in any consecutive 12-month period but less than 9,070 kg (10 tons) of ethylene oxide in all consecutive 12-month periods after December 6, 1996.

*Source(s) using less than 10 tons* means source(s) using less than 9,070 kg (10 tons) of ethylene oxide in all consecutive 12-month periods after December 6, 1996.

*Source(s) using 10 tons* means source(s) using 9,070 kg (10 tons) or more of ethylene oxide in any consecutive 12-month period after December 6, 1996.

*Sterilization chamber* means any enclosed vessel or room that is filled with ethylene oxide gas, or an ethylene oxide/inert gas mixture, for the purpose of sterilizing and/or fumigating at a sterilization facility.

*Sterilization chamber vent* means the point (prior to the vacuum pump) through which the evacuation of ethylene oxide from the sterilization chamber occurs following sterilization or fumigation, including any subsequent air washes.

*Sterilization facility* means any stationary source where ethylene oxide is used in the sterilization or fumigation of materials.

*Sterilization operation* means any time when ethylene oxide is removed from the sterilization chamber through the sterilization chamber vent or the chamber exhaust vent or when ethylene oxide is removed from the aeration room through the aeration room vent.

*Thermal oxidizer* means all combustion devices except flares.

[59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55583, Nov. 2, 2001]

**§63.362 Standards.**

(a) Each owner or operator of a source subject to the provisions of this subpart shall comply with these requirements on and after the compliance date specified in §63.360(g). The standards of this section are summarized in Table 1 of this section.

Table 1 of Section 63.362—Standards for Ethylene Oxide Commercial Sterilizers and Fumigators

Existing and new sources	Source type	Sterilization chamber vent	Aeration room vent	Chamber exhaust vent
Source size	<907 kg (<1 ton)	No control required; minimal recordkeeping requirements apply (see §63.367(c)).		
	≥907 kg and <9,070 kg (≥1 ton and <10 tons)	99% emission reduction (see §63.362(c))	No control	No control.
	≥9,070 kg (≥10 tons)	99% emission reduction (see §63.362(c))	1 ppm maximum outlet concentration or 99% emission reduction (see §63.362(d))	No control.

(b) *Applicability of emission limits.* The emission limitations of paragraphs (c), (d), and (e) of this section apply during sterilization operation. The emission limitations do not apply during periods of malfunction.

(c) *Sterilization chamber vent at sources using 1 ton.* Each owner or operator of a sterilization source using 1 ton shall reduce ethylene oxide emissions to the atmosphere by at least 99 percent from each sterilization chamber vent.

(d) *Aeration room vent at sources using 10 tons.* Each owner or operator of a sterilization source using 10 tons shall reduce ethylene oxide emissions to the atmosphere from each aeration room vent to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent, from each aeration room vent.

(e) [Reserved]

[59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55583, Nov. 2, 2001]

**§63.363 Compliance and performance provisions.**

(a)(1) The owner or operator of a source subject to emissions standards in §63.362 shall conduct an initial performance test using the procedures listed in §63.7 according to the applicability in Table 1 of §63.360, the procedures listed in this section, and the test methods listed in §63.365.

(2) The owner or operator of all sources subject to these emissions standards shall complete the performance test within 180 days after the compliance date for the specific source as determined in §63.360(g).

(b) The procedures in paragraphs (b)(1) through (3) of this section shall be used to determine initial compliance with the emission limits under §63.362(c), the sterilization chamber vent standard and to establish operating limits for the control devices:

(1) The owner or operator shall determine the efficiency of control devices used to comply with §63.362(c) using the test methods and procedures in §63.365(b).

(2) For facilities with acid-water scrubbers, the owner or operator shall establish as an operating limit either:

(i) The maximum ethylene glycol concentration using the procedures described in §63.365(e)(1); or

(ii) The maximum liquor tank level using the procedures described in §63.365(e)(2).

(3) For facilities with catalytic oxidizers or thermal oxidizers, the operating limit consists of the recommended minimum oxidation temperature provided by the oxidation unit manufacturer for an operating limit.

(4) Facilities with catalytic oxidizers shall comply with one of the following work practices:

(i) Once per year after the initial compliance test, conduct a performance test during routine operations, i.e., with product in the chamber using the procedures described in §63.365(b) or (d) as appropriate. If the percent efficiency is less than 99 percent, restore the catalyst as soon as practicable but no later than 180 days after conducting the performance test; or

(ii) Once per year after the initial compliance test, analyze ethylene oxide concentration data from §63.364(e) or a continuous emission monitoring system (CEMS) and restore the catalyst as soon as practicable but no later than 180 days after data analysis; or,

(iii) Every 5 years, beginning 5 years after the initial compliance test (or by December 6, 2002, whichever is later), replace the catalyst bed with new catalyst material.

(c) The procedures in paragraphs (c)(1) through (3) of this section shall be used to determine initial compliance with the emission limits under §63.362(d), the aeration room vent standard:

(1) The owner or operator shall comply with either paragraph (b)(2) or (3) of this section.

(2) Determine the concentration of ethylene oxide emitted from the aeration room into the atmosphere (after any control device used to comply with §63.362(d)) using the methods in §63.365(c)(1); or

(3) Determine the efficiency of the control device used to comply with §63.362(d) using the test methods and procedures in §63.365(d)(2).

(d) [Reserved]

(e) For facilities complying with the emissions limits under §63.362 with a control technology other than acid-water scrubbers or catalytic or thermal oxidizers, the owner or operator of the facility shall provide to the Administrator or delegated authority information describing the design and operation of the air pollution control system, including recommendations for the operating parameters to be monitored to demonstrate continuous compliance. Based on this information, the Administrator will determine the operating parameter(s) to be measured during the performance test. During the performance test required in paragraph (a) of this section, using the methods approved in §63.365(g), the owner or operator shall determine the site-specific operating limit(s) for the operating parameters approved by the Administrator.

(f) A facility must demonstrate continuous compliance with each operating limit and work practice standard required under this section, except during periods of startup, shutdown, and malfunction, according to the methods specified in §63.364.

[66 FR 55583, Nov. 2, 2001]

**§63.364 Monitoring requirements.**

(a)(1) The owner or operator of a source subject to emissions standards in §63.362 shall comply with the monitoring requirements in §63.8 of subpart A of this part, according to the applicability in Table 1 of §63.360, and in this section.

(2) Each owner or operator of an ethylene oxide sterilization facility subject to these emissions standards shall monitor the parameters specified in this section. All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(b) For sterilization facilities complying with §63.363(b) or (d) through the use of an acid-water scrubber, the owner or operator shall either:

(1) Sample the scrubber liquor and analyze and record once per week the ethylene glycol concentration of the scrubber liquor using the test methods and procedures in §63.365(e)(1). Monitoring is required during a week only if the scrubber unit has been operated; or

(2) Measure and record once per week the level of the scrubber liquor in the recirculation tank. The owner or operator shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e., a marker on the tank wall, a dipstick, a magnetic indicator, etc.). Monitoring is required during a week only if the scrubber unit has been operated.

(c) For sterilization facilities complying with §63.363(b) or (c) through the use of catalytic oxidation or thermal oxidation, the owner or operator shall either comply with §63.364(e) or continuously monitor and record the oxidation temperature at the outlet to the catalyst bed or at the exhaust point from the thermal combustion chamber using the temperature monitor described in paragraph (c)(4) of this section. Monitoring is required only when the oxidation unit is operated. From 15-minute or shorter period temperature values, a data acquisition system for the temperature monitor shall compute and record a daily average oxidation temperature. Strip chart data shall be converted to record a daily average oxidation temperature each day any instantaneous temperature recording falls below the minimum temperature.

(1)-(3) [Reserved]

(4) The owner or operator shall install, calibrate, operate, and maintain a temperature monitor accurate to within  $\pm 5.6$  °C ( $\pm 10$  °F) to measure the oxidation temperature. The owner or operator shall verify the accuracy of the temperature monitor twice each calendar year with a reference temperature monitor (traceable to National Institute of Standards and Technology (NIST) standards or an independent temperature measurement device dedicated for this purpose). During accuracy checking, the probe of the reference device shall be at the same location as that of the temperature monitor being tested. As an alternative, the accuracy temperature monitor may be verified in a calibrated oven (traceable to NIST standards).

(d) For sterilization facilities complying with §63.363(b) or (c) through the use of a control device other than acid-water scrubbers or catalytic or thermal oxidizers, the owner or operator shall monitor the parameters as approved by the Administrator using the methods and procedures in §63.365(g).

(e) Measure and record once per hour the ethylene oxide concentration at the outlet to the atmosphere after any control device according to the procedures specified in §63.365(c)(1). The owner or operator shall compute and record a 24-hour average daily. The owner or operator will install, calibrate, operate, and maintain a monitor consistent with the requirements of performance specification (PS) 8 or 9 in 40 CFR part 60, appendix B, to measure ethylene oxide. The daily calibration requirements of section 7.2 of PS-9 or Section 13.1 of PS-8 are required only on days when ethylene oxide emissions are vented to the control device.

(f) [Reserved]

[59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55584, Nov. 2, 2001; 79 FR 11283, Feb. 27, 2014]

### **§63.365 Test methods and procedures.**

(a) *Performance testing.* The owner or operator of a source subject to the emissions standards in §63.362 shall comply with the performance testing requirements in §63.7 of subpart A of this part, according to the applicability in Table 1 of §63.360, and in this section.

(b) *Efficiency at the sterilization chamber vent.* California Air Resources Board (CARB) Method 431 or the following procedures shall be used to determine the efficiency of all types of control devices used to comply with §63.362(c), sterilization chamber vent standard.

(1) *First evacuation of the sterilization chamber.* These procedures shall be performed on an empty sterilization chamber, charged with a typical amount of ethylene oxide, for the duration of the first evacuation under normal operating conditions (i.e., sterilization pressure and temperature).

(i) The amount of ethylene oxide loaded into the sterilizer ( $W_c$ ) shall be determined by either:

(A) Weighing the ethylene oxide gas cylinder(s) used to charge the sterilizer before and after charging. Record these weights to the nearest 45 g (0.1 lb). Multiply the total mass of gas charged by the weight percent ethylene oxide present in the gas.

(B) Installing calibrated rotameters at the sterilizer inlet and measuring flow rate and duration of sterilizer charge. Use the following equation to convert flow rate to weight of ethylene oxide:

$$W_c = F_v \times t \times \%EO_v \times \left( \frac{MW}{SV} \right)$$

where:

$W_c$  = weight of ethylene oxide charged, g (lb)

$F_v$  = volumetric flow rate, liters per minute (L/min) corrected to 20 °C and 101.325 kilopascals (kPa) (scf per minute (scfm) corrected to 68 °F and 1 atmosphere of pressure (atm)); the flowrate must be constant during time (t)

t = time, min

% $EO_v$  = volume fraction ethylene oxide

SV = standard volume, 24.05 liters per mole (L/mole) = 22.414 L/mole ideal gas law constant corrected to 20 °C and 101.325 kPa (385.32 scf per mole (scf/mole) = 359 scf/mole ideal gas law constant corrected to 68 °F and 1 atm).

MW = molecular weight of ethylene oxide, 44.05 grams per gram-mole (g/g-mole) (44.05 pounds per pound-mole (lb/lb-mole)), or

(C) Calculating the mass based on the conditions of the chamber immediately after it has been charged using the following equation:

$$W_c = \frac{MW \times \%EO_v \times P \times V}{R \times T}$$

where:

P = chamber pressure, kPa (psia)

V = chamber volume, liters (L) (ft<sup>3</sup>)

R = gas constant, 8.313 L·kPa/g-mole·(10.73 psia·ft<sup>3</sup>/mole·°R)

T = temperature, K (°R)

NOTE: If the ethylene oxide concentration is in weight percent, use the following equation to calculate mole fraction:

$$\%EO_v = \frac{W_{EO}}{W_{EO} + \left( W_x \times \frac{MW}{MW_x} \right)}$$

where:

W<sub>EO</sub> = weight percent of ethylene oxide

W<sub>x</sub> = weight percent of compound in the balance of the mixture

MW<sub>x</sub> = molecular weight of compound in the balance gas mixture

(ii) The residual mass of ethylene oxide in the sterilizer shall be determined by recording the chamber temperature, pressure, and volume after the completion of the first evacuation and using the following equation:

$$W_r = \frac{MW \times \%EO_v \times P \times V}{R \times T}$$

where:

W<sub>r</sub> = weight of ethylene oxide remaining in chamber (after the first evacuation), in g (lb)

(iii) Calculate the total mass of ethylene oxide at the inlet to the control device (W<sub>i</sub>) by subtracting the residual mass (W<sub>r</sub>) calculated in paragraph (b)(1)(ii) of this section from the charged weight (W<sub>c</sub>) calculated in paragraph (b)(1)(i) of this section.

(iv) The mass of ethylene oxide emitted from the control device outlet ( $W_o$ ) shall be calculated by continuously monitoring the flow rate and concentration using the following procedure.

(A) Measure the flow rate through the control device exhaust continuously during the first evacuation using the procedure found in 40 CFR part 60, appendix A, Test Methods 2, 2A, 2C, or 2D, as appropriate. (Method 2D (using orifice plates or Rootstype meters) is recommended for measuring flow rates from sterilizer control devices.) Record the flow rate at 1-minute intervals throughout the test cycle, taking the first reading within 15 seconds after time zero. Time zero is defined as the moment when the pressure in the sterilizer is released. Correct the flow to standard conditions (20 °C and 101.325 kPa (68 °F and 1 atm)) and determine the flow rate for the run as outlined in the test methods listed in paragraph (b) of this section.

(B) Test Method 18 or 25A, 40 CFR part 60, appendix A (hereafter referred to as Method 18 or 25A, respectively), shall be used to measure the concentration of ethylene oxide.

(1) Prepare a graph of volumetric flow rate versus time corresponding to the period of the run cycle. Integrate the area under the curve to determine the volume.

(2) Calculate the mass of ethylene oxide by using the following equation:

$$W_o = C \times V \times \frac{MW}{SV} \times \frac{1}{10^6}$$

Where:

$W_o$  = Mass of ethylene oxide, g (lb)

$C$  = concentration of ethylene oxide in ppmv

$V$  = volume of gas exiting the control device corrected to standard conditions, L (ft<sup>3</sup>)

$1/10^6$  = correction factor  $L_{EO}/10^6 L_{TOTAL\ GAS}$  (ft<sup>3</sup><sub>EO</sub>/10<sup>6</sup> ft<sup>3</sup><sub>TOTAL GAS</sub>)

(3) Calculate the efficiency by the equation in paragraph (b)(1)(v) of this section.

(C) [Reserved]

(v) Determine control device efficiency (% Eff) using the following equation:

$$\%Eff = \frac{W_i - W_o}{W_i} \times 100$$

where:

% Eff = percent efficiency

$W_i$  = mass flow rate into the control device

$W_o$  = mass flow rate out of the control device

(vi) Repeat the procedures in paragraphs (b)(1) (i) through (v) of this section three times. The arithmetic average percent efficiency of the three runs shall determine the overall efficiency of the control device.

(2) [Reserved]

(c) *Concentration determination.* The following procedures shall be used to determine the ethylene oxide concentration.

(1) *Parameter monitoring.* For determining the ethylene oxide concentration required in §63.364(e), follow the procedures in PS 8 or PS 9 in 40 CFR part 60, appendix B. Sources complying with PS 8 are exempt from the relative accuracy procedures in sections 2.4 and 3 of PS-8.

(2) *Initial compliance.* For determining the ethylene oxide concentration required in §63.363(c)(2), the procedures outlined in Method 18 or Method 25 A (40 CFR part 60, appendix A) shall be used. A Method 18 or Method 25A test consists of three 1-hour runs. If using Method 25A to determine concentration, calibrate and report Method 25A instrument results using ethylene oxide as the calibration gas. The arithmetic average of the ethylene oxide concentration of the three test runs shall determine the overall outlet ethylene oxide concentration from the control device.

(d) *Efficiency determination at the aeration room vent (not manifolded).* The following procedures shall be used to determine the efficiency of a control device used to comply with §63.362(d), the aeration room vent standard.

(1) Determine the concentration of ethylene oxide at the inlet and outlet of the control device using the procedures in Method 18 or 25A in 40 CFR part 60, appendix A. A test is comprised of three 1-hour runs.

(2) Determine control device efficiency (% Eff) using the following equation:

$$\% \text{ Eff} = \frac{W_i - W_o}{W_i} \times 100$$

Where:

% Eff = percent efficiency

$W_i$  = mass flow rate into the control device

$W_o$  = mass flow rate out of the control device

(3) Repeat the procedures in paragraphs (d)(1) and (2) of this section three times. The arithmetic average percent efficiency of the three runs shall determine the overall efficiency of the control device.

(e) *Determination of baseline parameters for acid-water scrubbers.* The procedures in this paragraph shall be used to determine the monitored parameters established in §63.363(b), (d), or (e) for acid-water scrubbers and to monitor the parameters as established in §63.364(b).

(1) *Ethylene glycol concentration.* For determining the ethylene glycol concentration, the facility owner or operator shall establish the maximum ethylene glycol concentration as the ethylene glycol concentration averaged over three test runs; the sampling and analysis procedures in ASTM D 3695-88, Standard Test Method for Volatile Alcohols in Water By Direct Aqueous-Injection Gas Chromatography, (incorporated by reference—see §63.14) shall be used to determine the ethylene glycol concentration.

(2) *Scrubber liquor tank level.* For determining the scrubber liquor tank level, the sterilization facility owner or operator shall establish the maximum liquor tank level based on a single measurement of the liquor tank level during one test run.



(f) [Reserved]

(g) An owner or operator of a sterilization facility seeking to demonstrate compliance with the standards found at §63.362(c), (d), or (e) with a control device other than an acid-water scrubber or catalytic or thermal oxidation unit shall provide to the Administrator the information requested under §63.363(f). The owner or operator shall submit: a description of the device; test results collected in accordance with §63.363(f) verifying the performance of the device for controlling ethylene oxide emissions to the atmosphere to the levels required by the applicable standards; the appropriate operating parameters that will be monitored; and the frequency of measuring and recording to establish continuous compliance with the standards. The monitoring plan submitted identifying the compliance monitoring is subject to the Administrator's approval. The owner or operator of the sterilization facility shall install, calibrate, operate, and maintain the monitor(s) approved by the Administrator based on the information submitted by the owner or operator. The owner or operator shall include in the information submitted to the Administrator proposed performance specifications and quality assurance procedures for their monitors. The Administrator may request further information and shall approve appropriate test methods and procedures.

(h) An owner or operator of a sterilization facility seeking to demonstrate compliance with the requirements of §63.363 or §63.364, with a monitoring device or procedure other than a gas chromatograph or a flame ionization analyzer, shall provide to the Administrator information describing the operation of the monitoring device or procedure and the parameter(s) that would demonstrate continuous compliance with each operating limit. The Administrator may request further information and will specify appropriate test methods and procedures.

[59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55584, Nov. 2, 2001; 79 FR 11283, Feb. 27, 2014]

#### **§63.366 Reporting requirements.**

(a) The owner or operator of a source subject to the emissions standards in §63.362 shall fulfill all reporting requirements in §§63.10(a), (d), (e), and (f) of subpart A, according to the applicability in Table 1 of §63.360. These reports will be made to the Administrator at the appropriate address identified in §63.13 of subpart A of this part.

(1) Reports required by subpart A and this section may be sent by U.S. mail, fax, or by another courier.

(i) Submittals sent by U.S. mail shall be postmarked on or before the specified date.

(ii) Submittals sent by other methods shall be received by the Administrator on or before the specified date.

(2) If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

(3) Content and submittal dates for deviations and monitoring system performance reports. All deviations and monitoring system performance reports and all summary reports, if required per §63.10(e)(3)(vii) and (viii), shall be delivered or postmarked within 30 days following the end of each calendar half or quarter as appropriate (see §63.10(e)(3)(i) through (iv) for applicability). Written reports of deviations from an operating limit shall include all information required in §63.10(c)(5) through (13), as applicable in Table 1 of §63.360, and information from any calibration tests in which the monitoring equipment is not in compliance with PS 9 or the method used for temperature calibration. The written report shall also include the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no deviations have occurred or monitoring equipment has not been inoperative, repaired, or adjusted, such information shall be stated in the report.

(b) *Construction and reconstruction.* The owner or operator of each source using 10 tons shall fulfill all requirements for construction or reconstruction of a source in §63.5 of subpart A of this part, according to the applicability in Table 1 of §63.360, and in this paragraph.

(1) *Applicability.* (i) This paragraph and §63.5 of subpart A of this part implement the preconstruction review requirements of section 112(i)(1) for sources subject to these emissions standards. In addition, this paragraph and §63.5 of subpart A of this part include other requirements for constructed and reconstructed sources that are or become subject to these emissions standards.

(ii) After the effective date, the requirements in this section and in §63.5 of subpart A of this part apply to owners or operators who construct a new source or reconstruct a source subject to these emissions standards after December 6, 1994. New or reconstructed sources subject to these emissions standards with an initial startup date before the effective date are not subject to the preconstruction review requirements specified in paragraphs (b) (2) and (3) of this section and §63.5(d) (3) and (4) and (e) of subpart A of this part.

(2) After the effective date, whether or not an approved permit program is effective in the State in which a source is (or would be) located, no person may construct a new source or reconstruct a source subject to these emissions standards, or reconstruct a source such that the source becomes a source subject to these emissions standards, without obtaining advance written approval from the Administrator in accordance with the procedures specified in paragraph (b)(3) of this section and §63.5(d) (3) and (4) and (e) of subpart A of this part.

(3) *Application for approval of construction or reconstruction.* The provisions of paragraph (b)(3) of this section and §63.5(d) (3) and (4) of subpart A of this part implement section 112(i)(1) of the Act.

(i) *General application requirements.* (A) An owner or operator who is subject to the requirements of paragraph (b)(2) of this section shall submit to the Administrator an application for approval of the construction of a new source subject to these emissions standards, the reconstruction of a source subject to these emissions standards, or the reconstruction of a source such that the source becomes a source subject to these emissions standards. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but not sooner than the effective date) if the construction or reconstruction commences after the effective date. The application shall be submitted as soon as practicable before the initial startup date but no later than 60 days after the effective date if the construction or reconstruction had commenced and the initial startup date had not occurred before the effective date. The application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of paragraph (c)(1)(iii) of this section. The owner or operator may submit the application for approval well in advance of the date construction or reconstruction is planned to commence in order to ensure a timely review by the Administrator and that the planned commencement date will not be delayed.

(B) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(1) The applicant's name and address.

(2) A notification of intention to construct a new source subject to these emissions standards or make any physical or operational change to a source subject to these emissions standards that may meet or has been determined to meet the criteria for a reconstruction, as defined in §63.2 of subpart A of this part.

(3) The address (i.e., physical location) or proposed address of the source.

(4) An identification of the relevant standard that is the basis of the application.

(5) The expected commencement date of the construction or reconstruction.

(6) The expected completion date of the construction or reconstruction.

(7) The anticipated date of (initial) startup of the source.

(8) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the standard, or if actual emissions data are not yet available, an estimate of the type and quantity of hazardous air pollutants expected to be emitted by the source reported in units and averaging times specified. The owner or operator may submit percent reduction information, if the standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance.

(9) Other information as specified in paragraph (b)(3)(ii) of this section and §63.5(d)(3) of subpart A of this part.

(C) An owner or operator who submits estimates or preliminary information in place of the actual emissions data and analysis required in paragraphs (b)(3)(i)(B)(8) and (ii) of this section shall submit the actual, measured emissions data and other correct information as soon as available but no later than with the notification of compliance status required in paragraph (c)(2) of this section.

(ii) *Application for approval of construction.* Each application for approval of construction shall include, in addition to the information required in paragraph (b)(3)(i)(B) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source subject to these emissions standards, including an identification of each point of emission for each hazardous air pollutant that is emitted (or could be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations. An owner or operator who submits approximations of control efficiencies under paragraph (b)(3) of this section shall submit the actual control efficiencies as specified in paragraph (b)(3)(i)(C) of this section.

(4) *Approval of construction or reconstruction based on prior State preconstruction review.* (i) The Administrator may approve an application for construction or reconstruction specified in paragraphs (b)(2) and (3) of this section and §63.5(d)(3) and (4) of subpart A of this part if the owner or operator of a new or reconstructed source who is subject to such requirement demonstrates to the Administrator's satisfaction that the following conditions have been (or will be) met:

(A) The owner or operator of the new or reconstructed source subject to these emissions standards has undergone a preconstruction review and approval process in the State in which the source is (or would be) located before the effective date and has received a federally enforceable construction permit that contains a finding that the source will meet these emissions standards as proposed, if the source is properly built and operated;

(B) In making its finding, the State has considered factors substantially equivalent to those specified in §63.5(e)(1) of subpart A of this part.

(ii) The owner or operator shall submit to the Administrator the request for approval of construction or reconstruction no later than the application deadline specified in paragraph (b)(3)(i) of this section. The

owner or operator shall include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in §63.5 of subpart A of this part. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction.

(c) *Notification requirements.* The owner or operator of each source subject to the emissions standards in §63.362 shall fulfill all notification requirements in §63.9 of subpart A of this part, according to the applicability in Table 1 of §63.360, and in this paragraph.

(1) *Initial notifications.* (i)(A) If a source that otherwise would be subject to these emissions standards subsequently increases its use of ethylene oxide within any consecutive 12-month period after December 6, 1996, such that the source becomes subject to these emissions standards or other requirements, such source shall be subject to the notification requirements of §63.9 of subpart A of this part.

(B) Sources subject to these emissions standards may use the application for approval of construction or reconstruction under paragraph (b)(3)(ii) of this section and §63.5(d) (3) of subpart A of this part, respectively, if relevant to fulfill the initial notification requirements.

(ii) The owner or operator of a new or reconstructed source subject to these emissions standards that has an initial startup date after the effective date and for which an application for approval of construction or reconstruction is required under paragraph (b)(3) of this section and §63.5(d) (3) and (4) of subpart A of this part shall provide the following information in writing to the Administrator:

(A) A notification of intention to construct a new source subject to these emissions standards, reconstruct a source subject to these emissions standards, or reconstruct a source such that the source becomes a source subject to these emissions standards with the application for approval of construction or reconstruction as specified in paragraph (b)(3)(i)(A) of this section;

(B) A notification of the date when construction or reconstruction was commenced, submitted simultaneously with the application for approval of construction or reconstruction, if construction or reconstruction was commenced before the effective date of these standards;

(C) A notification of the date when construction or reconstruction was commenced, delivered or postmarked not later than 30 days after such date, if construction or reconstruction was commenced after the effective date of these standards;

(D) A notification of the anticipated date of startup of the source, delivered or postmarked not more than 60 days nor less than 30 days before such date; and

(E) A notification of the actual date of initial startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) After the effective date, whether or not an approved permit program is effective in the State in which a source subject to these emissions standards is (or would be) located, an owner or operator who intends to construct a new source subject to these emissions standards or reconstruct a source subject to these emissions standards, or reconstruct a source such that it becomes a source subject to these emissions standards, shall notify the Administrator in writing of the intended construction or reconstruction. The notification shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but no sooner than the effective date of these standards) if the construction or reconstruction commences after the effective date of the standard. The notification shall be submitted as soon as practicable before the initial startup date but no later than 60 days after the effective date of this standard if the construction or reconstruction had commenced and the initial startup date has not occurred before the standard's effective date. The notification shall include all the information required for

an application for approval of construction or reconstruction as specified in paragraph (b)(3) of this section and §63.5(d)(3) and (4) of subpart A of this part. For sources subject to these emissions standards, the application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of §63.9 of subpart A of this part.

(2) If an owner or operator of a source subject to these emissions standards submits estimates or preliminary information in the application for approval of construction or reconstruction required in paragraph (b)(3)(ii) of this section and §63.5(d)(3) of subpart A of this part, respectively, in place of the actual emissions data or control efficiencies required in paragraphs (b)(3)(i)(B)(8) and (ii) of this section, the owner or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status.

(3) The owner or operator of any existing sterilization facility subject to this subpart shall also include the amount of ethylene oxide used during the previous consecutive 12-month period in the initial notification report required by §63.9(b)(2) and (3) of subpart A of this part. For new sterilization facilities subject to this subpart, the amount of ethylene oxide used shall be an estimate of expected use during the first consecutive 12-month period of operation.

[59 FR 62589, Dec. 6, 1994, as amended at 66 FR 55585, Nov. 2, 2001]

#### **§63.367 Recordkeeping requirements.**

(a) The owner or operator of a source subject to §63.362 shall comply with the recordkeeping requirements in §63.10(b) and (c), according to the applicability in Table 1 of §63.360, and in this section. All records required to be maintained by this subpart or a subpart referenced by this subpart shall be maintained in such a manner that they can be readily accessed and are suitable for inspection. The most recent 2 years of records shall be retained onsite or shall be accessible to an inspector while onsite. The records of the preceding 3 years, where required, may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, computer disk, magnetic tape, or microfiche.

(b) The owners or operators of a source using 1 to 10 tons not subject to §63.362 shall maintain records of ethylene oxide use on a 12-month rolling average basis (until the source changes its operations to become a source subject to §63.362).

(c) The owners or operators of a source using less than 1 ton shall maintain records of ethylene oxide use on a 12-month rolling average basis (until the source changes its operations to become a source subject to §63.362).

(d) The owners or operators complying with §63.363(b) (4) shall maintain records of the compliance test, data analysis, and if catalyst is replaced, proof of replacement.

[66 FR 55585, Nov. 2, 2001]

#### **§63.368 Implementation and enforcement.**

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§63.360 and 63.362.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f), as defined in §63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §63.8(f), as defined in §63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f), as defined in §63.90, and as required in this subpart.

[68 FR 37348, June 23, 2003]

## **Attachment B**

### **Federally Enforceable State Operating Permit (FESOP) No: F105-40744-00030**

[Downloaded from the eCFR on July 23, 2014]

#### **Electronic Code of Federal Regulations**

#### **Title 40: Protection of Environment**

#### **PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES**

#### **Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

#### **What This Subpart Covers**

##### **§63.6580 What is the purpose of subpart ZZZZ?**

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

##### **§63.6585 Am I subject to this subpart?**

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

**§63.6590 What parts of my plant does this subpart cover?**

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

**(1) Existing stationary RICE.**

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

**(2) New stationary RICE.** (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

**(3) Reconstructed stationary RICE.** (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.



(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

**§63.6595 When do I have to comply with this subpart?**

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

### **Emission and Operating Limitations**

#### **§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

#### **§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

**§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?**

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[78 FR 6701, Jan. 30, 2013]

**§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?**

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in §63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in §63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

#### **§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?**

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

### **General Compliance Requirements**

#### **§63.6605 What are my general requirements for complying with this subpart?**

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

### **Testing and Initial Compliance Requirements**

#### **§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?**

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

- (3) The test must be reviewed and accepted by the Administrator.
- (4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.
- (5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

**§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?**

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

**§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?**

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

- (a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).
- (b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

- (1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
- (2) The test must not be older than 2 years.
- (3) The test must be reviewed and accepted by the Administrator.
- (4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

**§63.6615 When must I conduct subsequent performance tests?**

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

**§63.6620 What performance tests and other procedures must I use?**

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

$C_i$  = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

$C_o$  = concentration of CO, THC, or formaldehyde at the control device outlet, and

$R$  = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO<sub>2</sub>). If pollutant concentrations are to be corrected to 15 percent oxygen and CO<sub>2</sub> concentration is measured in lieu of oxygen concentration measurement, a CO<sub>2</sub> correction factor is needed. Calculate the CO<sub>2</sub> correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific  $F_o$  value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:



$F_o$  = Fuel factor based on the ratio of oxygen volume to the ultimate  $CO_2$  volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

$F_d$  = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19,  $dsm^3/J$  ( $dscf/106$  Btu).

$F_c$  = Ratio of the volume of  $CO_2$  produced to the gross calorific value of the fuel from Method 19,  $dsm^3/J$  ( $dscf/106$  Btu)

(ii) Calculate the  $CO_2$  correction factor for correcting measurement data to 15 percent  $O_2$ , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (Eq. 3)$$

Where:

$X_{CO_2}$  =  $CO_2$  correction factor, percent.

5.9 = 20.9 percent  $O_2$ —15 percent  $O_2$ , the defined  $O_2$  correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent  $O_2$  using  $CO_2$  as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (Eq. 4)$$

Where:

$C_{adj}$  = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent  $O_2$ .

$C_d$  = Measured concentration of CO, THC, or formaldehyde, uncorrected.

$X_{CO_2}$  =  $CO_2$  correction factor, percent.

$\%CO_2$  = Measured  $CO_2$  concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

- (4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
- (5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.
- (h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.
- (1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally (e.g., wear and tear, error, etc.) on a routine basis or over time;
- (2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;
- (3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;
- (4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;
- (5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;
- (6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and
- (7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.
- (i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

**§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?**

- (a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O<sub>2</sub> or CO<sub>2</sub> according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.
- (1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.
- (2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR

part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO<sub>2</sub> concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

- (1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;
- (2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;
- (3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;
- (4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;
- (5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;
- (6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.
- (7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
- (8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;
- (9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and
- (10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

- (1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or
  - (2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.
- (h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

**§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?**

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O<sub>2</sub> using one of the O<sub>2</sub> measurement methods specified in Table 4 of this subpart. Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O<sub>2</sub> emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

### **Continuous Compliance Requirements**

#### **§63.6635 How do I monitor and collect data to demonstrate continuous compliance?**

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

#### **§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?**

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

- (1) The compliance demonstration must consist of at least one test run.
- (2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.
- (3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.
- (4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.
- (5) You must measure O<sub>2</sub> using one of the O<sub>2</sub> measurement methods specified in Table 4 of this subpart. Measurements to determine O<sub>2</sub> concentration must be made at the same time as the measurements for CO or THC concentration.
- (6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O<sub>2</sub> emissions simultaneously at the inlet and outlet of the control device.
- (7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.
- (d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).
- (e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.
- (f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.
- (1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the



engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

## **Notifications, Reports, and Records**

### **§63.6645 What notifications must I submit and when?**

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

#### **§63.6650 What reports must I submit and when?**

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in §63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) ([www.epa.gov/cdx](http://www.epa.gov/cdx)). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

#### **§63.6655 What records must I keep?**

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

**§63.6660 In what form and how long must I keep my records?**

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

**Other Requirements and Information**

**§63.6665 What parts of the General Provisions apply to me?**

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a

site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

**§63.6670 Who implements and enforces this subpart?**

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

**§63.6675 What definitions apply to this subpart?**

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

*Alaska Railbelt Grid* means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

*Area source* means any stationary source of HAP that is not a major source as defined in part 63.

*Associated equipment* as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

*Backup power for renewable energy* means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

*Black start engine* means an engine whose only purpose is to start up a combustion turbine.

*CAA* means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101-549, 104 Stat. 2399).

*Commercial emergency stationary RICE* means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

*Compression ignition* means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

*Custody transfer* means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

- (1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;
- (2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or
- (3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.
- (4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

*Diesel engine* means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

*Diesel fuel* means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (e.g. biodiesel) that is suitable for use in compression ignition engines.

*Digester gas* means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO<sub>2</sub>.

*Dual-fuel engine* means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

*Emergency stationary RICE* means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

- (1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.
- (2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).



(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

*Engine startup* means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

*Four-stroke engine* means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

*Gaseous fuel* means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

*Gasoline* means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

*Glycol dehydration unit* means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

*Hazardous air pollutants (HAP)* means any air pollutants listed in or pursuant to section 112(b) of the CAA.

*Institutional emergency stationary RICE* means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

*ISO standard day conditions* means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

*Landfill gas* means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO<sub>2</sub>.

*Lean burn engine* means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

*Limited use stationary RICE* means any stationary RICE that operates less than 100 hours per year.

*Liquefied petroleum gas* means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

*Liquid fuel* means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

*Major Source*, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

*Malfunction* means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

*Non-selective catalytic reduction (NSCR)* means an add-on catalytic nitrogen oxides (NO<sub>x</sub>) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO<sub>x</sub>, CO, and volatile organic compounds (VOC) into CO<sub>2</sub>, nitrogen, and water.

*Oil and gas production facility* as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

*Oxidation catalyst* means an add-on catalytic control device that controls CO and VOC by oxidation.

*Peaking unit or engine* means any standby engine intended for use during periods of high demand that are not emergencies.

*Percent load* means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

*Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

*Production field facility* means those oil and gas production facilities located prior to the point of custody transfer.

*Production well* means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

*Propane* means a colorless gas derived from petroleum and natural gas, with the molecular structure C<sub>3</sub>H<sub>8</sub>.

*Remote stationary RICE* means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

*Residential emergency stationary RICE* means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

*Responsible official* means responsible official as defined in 40 CFR 70.2.

*Rich burn engine* means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO<sub>x</sub> (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

*Site-rated HP* means the maximum manufacturer's design capacity at engine site conditions.

*Spark ignition* means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

*Stationary reciprocating internal combustion engine (RICE)* means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

*Stationary RICE test cell/stand* means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

*Stoichiometric* means the theoretical air-to-fuel ratio required for complete combustion.

*Storage vessel with the potential for flash emissions* means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

*Subpart* means 40 CFR part 63, subpart ZZZZ.

*Surface site* means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

*Two-stroke engine* means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

**Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup>
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub>	

<sup>1</sup> Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

**Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F. <sup>1</sup>
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O <sub>2</sub> and not using NSCR.	

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

**Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O <sub>2</sub> . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O <sub>2</sub> until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>1</sup>
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O <sub>2</sub>	

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O <sub>2</sub>	

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

**Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP**

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. <sup>1</sup>
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. <sup>1</sup>
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

<sup>1</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

**Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions**

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE <sup>1</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first. <sup>2</sup> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. <sup>3</sup>
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first. <sup>2</sup> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O <sub>2</sub> .	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O <sub>2</sub> ; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O <sub>2</sub> ; or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE. <sup>1</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>2</sup> b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>2</sup> b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; <sup>2</sup> b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. <sup>3</sup>	



For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O <sub>2</sub> .	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O <sub>2</sub> .	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O <sub>2</sub> .	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O <sub>2</sub> .	

<sup>1</sup>If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

<sup>2</sup>Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

<sup>3</sup>Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

**Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions**

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; <sup>1</sup> b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O <sub>2</sub> ; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O <sub>2</sub> ; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE. <sup>2</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year. <sup>2</sup>	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; <sup>1</sup> b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first; <sup>1</sup>	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; <sup>1</sup> b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

<sup>1</sup>Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

<sup>2</sup>If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

**Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests**

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually. <sup>1</sup>
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. <sup>1</sup>
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. <sup>1</sup>
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

<sup>1</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]

**Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests**

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For CO and O <sub>2</sub> measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure the O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005) <sup>ac</sup> (heated probe not necessary)	(b) Measurements to determine O <sub>2</sub> must be made at the same time as the measurements for CO concentration.
		iii. Measure the CO at the inlet and the outlet of the control device	(1) ASTM D6522-00 (Reapproved 2005) <sup>abc</sup> (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4	(c) The CO concentration must be at 15 percent O <sub>2</sub> , dry basis.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For formaldehyde, O <sub>2</sub> , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Measure O <sub>2</sub> at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005) <sup>a</sup> (heated probe not necessary)	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 <sup>a</sup>	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03 <sup>a</sup> , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7	(a) THC concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
3. Stationary RICE	a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and		(a) For formaldehyde, CO, O <sub>2</sub> , and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line ('3-point long line'). If the duct is >12 inches in diameter <i>and</i> the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at '3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O <sub>2</sub> concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005) <sup>a</sup> (heated probe not necessary)	(a) Measurements to determine O <sub>2</sub> concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 <sup>a</sup>	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03 <sup>a</sup> , provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005) <sup>ac</sup> , Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03 <sup>a</sup>	(a) CO concentration must be at 15 percent O <sub>2</sub> , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.



<sup>a</sup>You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

<sup>b</sup>You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

**Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements**

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O <sub>2</sub> or CO <sub>2</sub> at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O <sub>2</sub> or CO <sub>2</sub> at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
12. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O <sub>2</sub> , dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O <sub>2</sub> ;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O <sub>2</sub> , or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

**Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements**

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $\geq 250$ HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved <sup>a</sup> ; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved <sup>a</sup> ; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent. <sup>a</sup>
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit <sup>a</sup> ; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit <sup>a</sup> ; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.



For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O <sub>2</sub> ; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O <sub>2</sub> , or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

<sup>a</sup>After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]

**Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports**

As stated in §63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	i. Semiannually according to the requirements in §63.6650(b).
		c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).	i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in §63.6650(b)(1)-(5).

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in §63.6640(f)(4)( ii)	Report	a. The information in §63.6650(h)(1)	i. annually according to the requirements in §63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

**Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.**

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	No	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)-(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)-(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)-(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

## **Appendix A—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines**

### **1.0 Scope and Application. What is this Protocol?**

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O<sub>2</sub>) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

#### **1.1 Analytes. What does this protocol determine?**

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O<sub>2</sub>).

<b>Analyte</b>	<b>CAS No.</b>	<b>Sensitivity</b>
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O <sub>2</sub> )	7782-44-7	

#### **1.2 Applicability. When is this protocol acceptable?**

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

#### **1.3 Data Quality Objectives. How good must my collected data be?**

Refer to Section 13 to verify and document acceptable analyzer performance.

#### **1.4 Range. What is the targeted analytical range for this protocol?**

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O<sub>2</sub>, or no more than twice the permitted CO level.

#### **1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?**

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

### **2.0 Summary of Protocol**

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O<sub>2</sub> gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

### **3.0 Definitions**

**3.1 Measurement System.** The total equipment required for the measurement of CO and O<sub>2</sub> concentrations. The measurement system consists of the following major subsystems:

**3.1.1 Data Recorder.** A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

**3.1.2 Electrochemical (EC) Cell.** A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

**3.1.3 Interference Gas Scrubber.** A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

**3.1.4 Moisture Removal System.** Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

**3.1.5 Sample Interface.** The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

**3.2 Nominal Range.** The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

**3.3 Calibration Gas.** A vendor certified concentration of a specific analyte in an appropriate balance gas.

**3.4 Zero Calibration Error.** The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

**3.5 Up-Scale Calibration Error.** The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

**3.6 Interference Check.** A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

**3.7 Repeatability Check.** A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

**3.8 Sample Flow Rate.** The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

**3.9 Sampling Run.** A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O<sub>2</sub> and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre-sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

**3.10 Sampling Day.** A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

**3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check.** The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.



**3.12 Performance-Established Configuration.** The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

#### **4.0 Interferences.**

When present in sufficient concentrations, NO and NO<sub>2</sub> are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

#### **5.0 Safety. [Reserved]**

#### **6.0 Equipment and Supplies.**

##### **6.1 What equipment do I need for the measurement system?**

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

##### **6.2 Measurement System Components.**

**6.2.1 Sample Probe.** A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

**6.2.2 Sample Line.** Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

**6.2.3 Calibration Assembly (optional).** A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

**6.2.4 Particulate Filter (optional).** Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

**6.2.5 Sample Pump.** A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

**6.2.8 Sample Flow Rate Monitoring.** An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

**6.2.9 Sample Gas Manifold (optional).** A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

**6.2.10 EC cell.** A device containing one or more EC cells to determine the CO and O<sub>2</sub> concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

**6.2.11 Data Recorder.** A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O<sub>2</sub>; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

**6.2.12 Interference Gas Filter or Scrubber.** A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

## **7.0 Reagents and Standards. What calibration gases are needed?**

**7.1 Calibration Gases.** CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O<sub>2</sub>. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within  $\pm 5$  percent of the label value. Dry ambient air (20.9 percent O<sub>2</sub>) is acceptable for calibration of the O<sub>2</sub> cell. If needed, any lower percentage O<sub>2</sub> calibration gas must be a mixture of O<sub>2</sub> in nitrogen.

**7.1.1 Up-Scale CO Calibration Gas Concentration.** Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

**7.1.2 Up-Scale O<sub>2</sub> Calibration Gas Concentration.**

Select an O<sub>2</sub> gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O<sub>2</sub>. When the average exhaust gas O<sub>2</sub> readings are above 6 percent, you may use dry ambient air (20.9 percent O<sub>2</sub>) for the up-scale O<sub>2</sub> calibration gas.

**7.1.3 Zero Gas.** Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO<sub>2</sub>).

## **8.0 Sample Collection and Analysis**

### **8.1 Selection of Sampling Sites.**

**8.1.1 Control Device Inlet.** Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

**8.1.2 Exhaust Gas Outlet.** Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

**8.2 Stack Gas Collection and Analysis.** Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the "sample conditioning phase" once per minute until constant readings are obtained. Then begin the "measurement data phase" and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the "measurement data phase" readings to calculate the average stack gas CO and O<sub>2</sub> concentrations.

**8.3 EC Cell Rate.** Maintain the EC cell sample flow rate so that it does not vary by more than  $\pm 10$  percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than  $\pm 3$  percent, as instructed by the EC cell manufacturer.

## **9.0 Quality Control (Reserved)**

## 10.0 Calibration and Standardization

**10.1 Pre-Sampling Calibration.** Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

**10.1.1 Zero Calibration.** For both the O<sub>2</sub> and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

**10.1.2 Zero Calibration Tolerance.** For each zero gas introduction, the zero level output must be less than or equal to  $\pm 3$  percent of the up-scale gas value or  $\pm 1$  ppm, whichever is less restrictive, for the CO channel and less than or equal to  $\pm 0.3$  percent O<sub>2</sub> for the O<sub>2</sub> channel.

**10.1.3 Up-Scale Calibration.** Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this "sample conditioning phase" once per minute until readings are constant for at least two minutes. Then begin the "measurement data phase" and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

**10.1.4 Up-Scale Calibration Error.** The mean of the difference of the "measurement data phase" readings from the reported standard gas value must be less than or equal to  $\pm 5$  percent or  $\pm 1$  ppm for CO or  $\pm 0.5$  percent O<sub>2</sub>, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single "measurement data phase" reading must be less than or equal to  $\pm 2$  percent or  $\pm 1$  ppm for CO or  $\pm 0.5$  percent O<sub>2</sub>, whichever is less restrictive, respectively.

**10.2 Post-Sampling Calibration Check.** Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

## 11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

## 12.0 Calculations and Data Analysis

Determine the CO and O<sub>2</sub> concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the "measurement data phase".

## 13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

**13.1 Measurement Data Phase Performance Check.** Calculate the mean of the readings from the "measurement data phase". The maximum allowable deviation from the mean for each of the individual readings is  $\pm 2$  percent, or  $\pm 1$  ppm,

whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

*Example:* A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than  $\pm 2$  percent or  $\pm 1$  ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

**13.2 Interference Check.** Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO<sub>2</sub> gas standards that are generally recognized as representative of diesel-fueled engine NO and NO<sub>2</sub> emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

**13.2.1 Interference Response.** The combined NO and NO<sub>2</sub> interference response should be less than or equal to  $\pm 5$  percent of the up-scale CO calibration gas concentration.

**13.3 Repeatability Check.** Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

**13.3.1 Repeatability Check Procedure.** Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

**13.3.2 Repeatability Check Calculations.** Determine the highest and lowest average "measurement data phase" CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than  $\pm 3$  percent or  $\pm 1$  ppm of the up-scale gas value, whichever is less restrictive.

#### **14.0 Pollution Prevention (Reserved)**

#### **15.0 Waste Management (Reserved)**

#### **16.0 Alternative Procedures (Reserved)**

#### **17.0 References**

- (1) "Development of an Electrochemical Cell Emission Analyzer Test Protocol", Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.
- (2) "Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers", EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.
- (3) "ICAC Test Protocol for Periodic Monitoring", EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.
- (4) "Code of Federal Regulations", Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

Table 1: Appendix A—Sampling Run Data.

Facility _____		Engine I.D. _____				Date _____					
Run Type:	( )		( )		( )		( )				
(X)	Pre-Sample Calibration		Stack Gas Sample		Post-Sample Cal. Check		Repeatability Check				
Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O <sub>2</sub>	CO	O <sub>2</sub>	CO	O <sub>2</sub>	CO	O <sub>2</sub>	CO			
Sample Cond. Phase											
"											
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[78 FR 6721, Jan. 30, 2013]

**Indiana Department of Environmental Management  
Office of Air Quality**

**Addendum to the Technical Support Document (ATSD) for a  
Federally Enforceable State Operating Permit (FESOP) Renewal**

<b>Source Background and Description</b>
------------------------------------------

<b>Source Name:</b>	<b>Cook Incorporated</b>
<b>Source Location:</b>	<b>6300 North Matthews Drive, Ellettsville, Indiana 47429</b>
<b>County:</b>	<b>Monroe</b>
<b>SIC Code:</b>	<b>3841 (Surgical and Medical Instruments and Apparatus)</b>
<b>Permit Renewal No.:</b>	<b>F 105-40744-00030</b>
<b>Permit Reviewer:</b>	<b>Aida DeGuzman</b>

On June 14, 2019, the Office of Air Quality (OAQ) had a notice posted on IDEM's website (<https://www.in.gov/idem/5474.htm>), stating that Cook Incorporated had applied for a FESOP Renewal to continue operating its medical device manufacturing and sterilization operation. The notice also stated that the OAQ proposed to issue a FESOP Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

<b>Comments and Responses</b>
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On July 12, 2019, US EPA Region 5 submitted comments to IDEM, OAQ on the draft FESOP Renewal.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

**Comment 1:**

Condition D.1.5(a) requires periodic performance testing to determine the control efficiency of the primary wet acid scrubber (controlling the sterilization chamber vents) and the wet acid pre-scrubber (controlling the aeration room vents), and to determine the site-specific operating parameters to achieve the required control efficiency. The technical support document (TSD) and Conditions D.1.6(d) and D.1.7(b) indicate that the level of scrubber liquor in the recirculation tank of the wet acid scrubbers is a parameter monitored to determine compliance. However, it is unclear what is determined, acceptable range for the scrubber liquor level, and what corrective action must be taken if the levels deviate from the acceptable range. We request that IDEM review the permit to insure that, pursuant to 326 IAC 2-8-4, it includes sufficient operational requirements and limitations related to the primary wet acid scrubber and wet acid pre-scrubber to assure compliance with the VOC BACT and HAP minor limits of conditions D.1.1 and D.1.2, and update the permit, if needed.

**Response to Comment 1:**

Condition D.1.1, BACT requirement was based on the ethylene oxide limit established under 40 CFR 63, Subpart O. Continuous compliance with the ethylene oxide limits both for Condition D.1.1 and 40 CFR 63.364(b), Subpart O for wet-acid scrubbers is demonstrated through monitoring of the selected site-specific operating parameter established during compliance testing. The source elected to use the maximum scrubber liquor level in the recirculation tank as the monitored parameter as provided in 40

CFR 63.364(b)(2). During Cook's June 3-4 1999, initial compliance test per 40 CFR 63.363(a)(1), the maximum monitoring parameter for the recirculation tank was established at 84.75 inches above floor elevation using the procedures described in 40 CFR 63.365(e)(2). Condition D.6 -Monitoring has been revised to add the maximum scrubber liquor level as follows:

#### D.1.6 Monitoring

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To demonstrate the compliance status with the control efficiency and emission limitations requirements in conditions D.1.1, and D.1.2:

- (a) The Permittee shall monitor and record the number of equivalent sterilization cycles performed while the bed is in service for the single non-regenerable dry bed reactor controlling ethylene oxide emissions from the seven (7) sterilization chamber exhaust vents (back vents) for units S1 through S7,
- (b) The Permittee shall keep a record of the number of sterilization cycles run for sterilizer units S1 through S7, convert this to equivalent cycles for a 512 ft<sup>3</sup> sterilizer, and keep a daily running record of total equivalent cycles. Upon reaching 2,917 equivalent sterilization cycles, based on the manufacturer's guaranteed bed capacity of 360 pounds of ethylene oxide, the performance of the dry bed reactor is assumed to drop below 99% removal efficiency and the bed material will have to be removed and replaced with fresh reactant.
- (c) The gas chromatography shall be calibrated, maintained and operated for measuring the outlet concentration from the dry bed system associated with sterilization chambers (S1-S7) once a week. In the event the on-site gas chromatograph malfunctions, arrangements will be made for interim weekly off-site analysis via gas chromatography. This does not relieve the Permittee of the responsibility to properly maintain the on-site gas chromatograph.
- (d) ~~The Permittee shall measure and record once per week during testing the level of the scrubber liquor in the recirculation tank of the primary wet acid scrubber controlling sterilization chamber vents and the wet acid pre-scrubber controlling aeration room vents. The Permittee shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e. a marker on the tank wall, a dipstick, a magnetic indicator, etc.).~~

**The Permittee shall measure and record once per week the level of the scrubber liquor in the single recirculation tank serving both the primary wet acid scrubber controlling sterilization chamber vents and the wet acid pre-scrubber controlling aeration room vents per 40 CFR 63.364(b)(2). The Permittee shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e. a marker on the tank wall, a dipstick, a magnetic indicator, etc.) to ensure the scrubber liquor level remains below the maximum allowable height of 84.75 inches above floor elevation**

**When for any one reading the scrubber liquor level range is above the above mentioned maximum height of 84.75 inches, the Permittee shall take a reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A reading that is above the above mentioned maximum liquor level is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.**

## **Comment 2:**

Condition D.1.4(c) requires the operation of the three dry bed reactors with or without the wet acid pre-scrubber to control ethylene oxide (EtO) emissions from the 14 aeration rooms, to comply with the VOC BACT and HAP minor limits of Conditions D.1.1 and D.1.2. The permit does not appear to include sufficient monitoring for the three dry bed reactors to assure continuous compliance with the control efficiency and emission limitations of Conditions D.1.1, D.1.2, and NESHAP Subpart O, as follows:

NESHAP Subpart O at 40 CFR § 63.365(g) indicates that an owner or operator seeking to demonstrate compliance with the aeration room vent control requirements of 40 CFR 63.362(d) with a control device other than an acid-water scrubber or catalytic or thermal oxidation unit shall submit, among other things, performance test results, the appropriate operating parameters that will be monitored, and the frequency of measuring and recording to establish continuous compliance with the standards. We note that Condition D.1.5(a) requires performance testing to determine the control efficiency and site-specific operating parameters for the dry bed reactors to achieve the required control efficiency. Also, Condition D.1.7(a)(2) requires that the Permittee maintain records for the number of equivalent sterilization cycles performed daily while the three dry bed reactors controlling the aeration room exhaust are in service. However, there is no corresponding requirement in condition D.1.6 to monitor the number of equivalent sterilization cycles, or determine the number of cycles that would correspond to a reduction in performance exceeding the applicable limit of Condition D.1.1(b). As a point of comparison, we note that the permit has such requirements for the single non-regenerable dry bed reactor (that controls the EtO sterilization chamber back vents) at Conditions D.1.6(a) and (b), respectively, to comply with condition D.1.1. There is also a requirement at Condition D.1.6(c) to periodically monitor the outlet concentration from the single non-regenerable dry bed reactor using gas chromatography.

USEPA requests that IDEM review the monitoring requirements for the three dry bed reactors to insure that, pursuant to 326 IAC 2-8-4(3), the permit includes monitoring and related recordkeeping requirements that assure that all reasonable information is provided to evaluate continuous compliance with the abovementioned control efficiency and emission limitations.

## **Response to Comment 2:**

On May 29, 2003, Cook submitted a monitoring plan for operating and monitoring parameters for other technology to the USEPA pursuant to 40 CFR 63.363(e) for the Aeration Room Vent (ARV) dry bed reactors. The submittal was for monitoring of the Aeration Room Vents emissions control equipment outlet using an on-site gas chromatograph (GC) unit. The plan also described for informational purposes the IDEM issued FESOP provisions for monitoring of the Chamber Exhaust Vent emissions through the single non-regenerable dry bed reactor using Equivalent Cycle calculations. The plan was approved by the USEPA in correspondence dated June 20, 2003. The approved plan includes weekly bag sampling of the ARV dry bed system outlet and on-site GC measurements along with test result recordkeeping. The approved compliance standard is 1 ppm as specified in 40 CFR 63.362(d). In delegating the NESHAP regulatory authority to IDEM, the USEPA retained the authority to establish alternative requirements under Section 111 (h)(3) of the Clean Air Act, and, accordingly, Cook is required to follow the USEPA approved monitoring parameters for the ARV control equipment. See 49 Fed. Reg. 28,708, at 28,709 (July 16, 1984). Cook completes weekly sampling, testing, and recordkeeping of the ARV dry bed system outlet in accordance with the USEPA approved Alternative Monitoring Plan. The Monitoring Plan states that the dry bed media will be replaced when the ARV EtO emissions concentration exceeds 1.0 ppm by volume. To comply with that standard, Cook changes out the ARV dry bed system media after 2,912 Equivalent Cycles, which is the same schedule as the single regenerative dry bed for the Chamber Exhaust Vents (CEV). To date, when Cook has replaced the dry bed media for the ARV dry bed system, Cook's weekly sampling has actually shown those emissions to be non-detect. This confirms that the equivalent cycles calculation is sufficiently protective to achieve the 1.0 ppm standard. Condition D.1.6 has been revised to include the three (3) dry bed reactors and to clarify this condition:



#### D.1.6 Monitoring

---

To demonstrate the compliance status with the control efficiency and emission limitations requirements in Conditions D.1.1, and D.1.2:

- ~~(a) The Permittee shall monitor and record the number of equivalent sterilization cycles performed while the bed is in service for the single non-regenerable dry bed reactor controlling ethylene oxide emissions from the seven (7) sterilization chamber exhaust vents (back vents) for units S1 through S7,~~
- ~~(b) The Permittee shall keep a record of the number of sterilization cycles run for sterilizer units S1 through S7, convert this to equivalent cycles for a 512 ft<sup>3</sup> sterilizer, and keep a daily running record of total equivalent cycles. Upon reaching 2,917 equivalent sterilization cycles, based on the manufacturer's guaranteed bed capacity of 360 pounds of ethylene oxide, the performance of the dry bed reactor is assumed to drop below 99% removal efficiency and the bed material will have to be removed and replaced with fresh reactant.~~
- ~~(c) The gas chromatography shall be calibrated, maintained and operated for measuring the outlet concentration from the dry bed system associated with sterilization chambers (S1-S7) once a week. In the event the on-site gas chromatograph malfunctions, arrangements will be made for interim weekly off-site analysis via gas chromatography. This does not relieve the Permittee of the responsibility to properly maintain the on-site gas chromatograph.~~
- (a) For the Single Non-Regenerable Dry Bed Reactor and Three (3) Dry Bed Reactors; the Permittee shall comply with the following:**
  - (1) Monitor and record the number of equivalent sterilization cycles performed while the bed is in service for each of the dry bed reactors; single non-regenerable dry bed reactor controlling ethylene oxide emissions from the seven (7) sterilization chamber exhaust vents (back vents) for units S1 through S7 and the three (3) dry bed reactors controlling ethylene oxide emissions from the fourteen (14) aerations rooms, identified as HC1 through HC14.**
  - (2) Keep a record of the number of sterilization cycles run for sterilizer units S1 through S7, convert this to equivalent cycles for a 512 ft<sup>3</sup> sterilizer, and keep a daily running record of total equivalent cycles. The equivalent sterilization cycles shall not exceed 2,917. Each of the dry bed reactor's bed material shall be removed and replaced with fresh reactant once this maximum sterilization cycles is reached.**
  - (3) The gas chromatography shall be calibrated, maintained and operated for measuring the outlet concentration from each of the dry bed reactor associated with sterilization chambers (S1-S7) and dry bed reactor associated with the fourteen (14) aerations rooms, identified as HC1 through HC14 once a week. In the event the on-site gas chromatograph malfunctions, arrangements will be made for interim weekly off-site analysis via gas chromatography. This does not relieve the Permittee of the responsibility to properly maintain the on-site gas chromatograph.**
- (b) For the Primary Wet Acid Scrubber and Wet Acid Pre-Scrubber:**
  - ~~— The Permittee shall measure and record once per week during testing the level of the scrubber liquor in the recirculation tank of the primary wet acid scrubber controlling sterilization chamber vents and the wet acid pre-scrubber controlling aeration~~

~~room vents. The Permittee shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e. a marker on the tank wall, a dipstick, a magnetic indicator, etc.).~~

**The Permittee shall measure and record once per week the level of the scrubber liquor in the single recirculation tank serving both the primary wet acid scrubber controlling sterilization chamber vents and the wet acid pre-scrubber controlling aeration room vents per 40 CFR 63.364(b)(2). The Permittee shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e. a marker on the tank wall, a dipstick, a magnetic indicator, etc.) to ensure the scrubber liquor level remains below the maximum allowable height of 84.75 inches above floor elevation.**

**When for any one reading the scrubber liquor level range is above the above mentioned maximum height of 84.75 inches, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A reading that is above the above mentioned maximum liquor level is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.**

### **Comment 3:**

It is unclear what is the basis for the estimated "Fraction of EtO Usage" emitted during product transfer as shown in Appendix A to the TSD, page 5 of 9, and whether the resulting potential to emit calculation reflects the maximum capacity of the process to emit under its physical and operational design, including any enforceable physical or operational limitations, as follows:

- (a) Does the estimated EtO fraction emitted during product transfer involve assumptions for how promptly products are transferred to the aeration rooms? Could a substantial fraction of EtO emissions currently allocated to the aeration rooms be emitted instead during product transfer if transfer does not occur in a timely manner? We request that IDEM review how the EtO fraction for product transfer is calculated, and if needed, update the emission calculations and/or consider whether work practice requirements or other limits are appropriate to ensure the potential to emit from product transfer is supported by enforceable limits.
- (b) Condition D.1.2 limits emissions from the nine ethylene oxide sterilization chambers and fourteen aeration rooms to 9.42 tons per twelve consecutive month period. The limit of 9.42 tons per twelve consecutive month period may not provide an adequate margin to limit HAP emissions to less than 10 tons per year, when combined with the potential to emit from product transfer, and other emission units at the source. We request that IDEM review whether the current compliance margin is appropriate given the potential uncertainty in EtO emissions from product transfer and revise the permit, if needed.
- (c) Notwithstanding the above, we encourage the facility to consider voluntary work practices consistent with safety and good air pollution control practices to minimize emissions from product transfer.

### **Response to Comment 3:**

- (a) The estimated Ethylene Oxide (EtO) fraction of usage is based on an Aeration Cycle Emissions Model submitted to IDEM as part of Cook's initial FESOP permit application in July 1997. The product transfer emissions are included in this model. During the permit application review period for this FESOP renewal, the source again provided a copy of the original Aeration Cycle Emissions Model for IDEM review.

A copy of this document was also recently provided to Margaret Sieffert, U.S. EPA Region 5, Air Toxics and Assessment Branch via letter dated July 24, 2019.

In addition, the source has performed on-site GC testing of the product transfer area EtO levels during the product transfer stage of the sterilization process, and found no detectible EtO levels in the transfer areas. Furthermore, an active monitoring system continuously monitors nineteen (19) locations via GC, including transfer areas, in addition to thirteen (13) LEL sensors actively operating in each sterilization room and the EtO storage room. While the source is not aware of any regulatory or legal authority that would require additional controls, such as work practice standards, to control fugitive emissions from the product transfer stage of the sterilization process, the source is nevertheless committed to voluntarily going above and beyond the current regulatory standards for EtO control. The source has previously informed both USEPA and IDEM that Cook plans to voluntarily install an additional eighteen (18) dry bed units by the end of this year. Among other things, these units will capture and control fugitive product transfer EtO emissions from the facility. Therefore, the information outlined above resolves US EPA's comment and no changes to the permit were made as a result of this comment.

- (b) While the annual *Limited Potential to Emit* for EtO in Condition D.1.2 is 9.42 tons per year, the source *Controlled* Potential to Emit for EtO is well below this limit at 0.75 tons per year and based on nonstop operation of 8760 hours per year. Therefore, the source actual EtO emissions will be much lower than 0.75 tons per year since it is based on actual number of operating hours per year. So there is more than adequate margin for the HAPs emissions to be significantly under the 10 tons per year threshold. Furthermore, the pending installation of an additional eighteen (18) dry bed units will continue to drive the facility's EtO emissions, including from product transfer, to even lower levels. Therefore, no changes to the permit were made as a result of this comment.
- (c) The source acknowledges US EPA's comment and is committed to taking action to voluntarily reduce EtO emissions beyond what is required by current regulations. The pending installation of an additional eighteen (18) dry bed units will continue to reduce EtO emissions from the plant.

#### Technical Support Document (TSD) Comments

On July 10, 2019, Atlantic Design Engineers, Inc., on behalf of Cook Incorporated submitted comments to the draft FESOP Renewal.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

#### Comment 1:

In Section A.3 (0) (2) there is a reference to "drying booths" at the end of the sentence that we request be deleted per the attached red-line on Page 7 of the FESOP document.

#### A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

\*\*\*\*\*

- (o) ABRM Catheter Impregnation Process consisting of the following:

- (1) A total of two (2) hoods with six (6) emersion tanks per hood and two (2) wells per tank for a total of 24 wells, with a total capacity of 2930 cubic inches and an average weekly usage of 27.5 liters of solvent and antibiotic solution.

- (2) A total of three (3) drying hoods for silicon or polyurethane tubes ~~drying booths~~.

**Response to Comment 1:**

IDEM, OAQ has changed Section A.3(o)(2) as requested. The change is the following:

**A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]**

This stationary source also includes the following insignificant activities:

\*\*\*\*\*

- (o) ABRM Catheter Impregnation Process consisting of the following:

- (1) A total of two (2) hoods with six (6) emersion tanks per hood and two (2) wells per tank for a total of 24 wells, with a total capacity of 2930 cubic inches and an average weekly usage of 27.5 liters of solvent and antibiotic solution.
- (2) A total of three (3) drying hoods for silicon or polyurethane tubes ~~drying booths~~.

**Comment 2:**

In Section A.3 (0) (3), the references to the HAP (Methanol) emissions and potential VOC emissions are listed as 0.12 and 0.90 tons per year respectively. We are requesting these numbers be revised to 0.75 and 4.04 tons per year respectively to be consistent with the references in the insignificant activities of the Technical Support Document as well as in the Emissions Calculations. This revision is also shown on the attached red-line on Page 7 of the FESOP document.

**Response to Comment 2:**

IDEM, OAQ has fixed the PTE included in the unit description A.3(o)(3) for the formulation and mixing booth, since they do not match the PTE calculations. This revision is the following:

**A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]**

This stationary source also includes the following insignificant activities:

\*\*\*\*\*

- (o) ABRM Catheter Impregnation Process consisting of the following:

\*\*\*\*\*

- (3) A total of one (1) formulation and mixing booth, where the immersion solution is mixed, with potential single HAP (Methanol) emissions of ~~0.12~~ **0.75** tons per year and potential VOC emission of ~~0.90~~ **4.04** tons per year.

<b>IDEM Contact</b>
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- (a) If you have any questions regarding this permit, please contact Aida DeGuzman, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-4972 or (800) 451-6027, and ask for Aida DeGuzman or (317) 233-4972.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Indiana Department of Environmental Management  
Office of Air Quality**

**Technical Support Document (TSD) for a Federally Enforceable State  
Operating Permit (FESOP)**

<b>Source Description and Location</b>
----------------------------------------

<b>Source Name:</b>	<b>Cook Incorporated</b>
<b>Source Location:</b>	<b>6300 North Matthews Drive, Ellettsville, Indiana 47429</b>
<b>County:</b>	<b>Monroe</b>
<b>SIC Code:</b>	<b>3841 (Surgical and Medical Instruments and Apparatus)</b>
<b>Permit Renewal No.:</b>	<b>F 105-40744-00030</b>
<b>Permit Reviewer:</b>	<b>Anh Nguyen</b>

On November 21, 2018, Cook Incorporated submitted an application to the Office of Air Quality (OAQ) requesting to renew its operating permit. OAQ has reviewed the operating permit renewal application from Cook Incorporated relating to the operation of an existing stationary medical device manufacturing and sterilization operation. Cook Incorporated was issued its third FESOP Renewal F105-27381-00030 on August 24, 2009.

<b>Existing Approvals</b>
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The source was issued FESOP Renewal No. F105-27381-00030 on August 24, 2009. The source has since received the following approvals:

- (a) Significant Permit Revision No. 105-29042-00030, issued June 25, 2010.
- (b) Interim Significant Permit Revision No. 105-32055i-00030, issued July 25, 2012.
- (c) Administrative Amendment No. No. 105-32055-00030, issued September 7, 2012.
- (d) Administrative Amendment No. No. 105-41050-00030, issued February 22, 2019.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

<b>Emission Units and Pollution Control Equipment</b>
-------------------------------------------------------

The source consists of the following permitted emission units:

- (a) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01.
- (b) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, constructed in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to

three (3) non-regenerable dry bed reactors, which exhaust through one (1) stack, identified as SV02.

- (c) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01.

[Nine (9) ethylene oxide sterilization chambers (S1-S9) and fourteen (14) aeration rooms, ( HC1-HC14 are existing affected facilities under 40 CFR 63, Subpart O.]

- (d) Miscellaneous cleaning with isopropyl alcohol (IPA), methanol, and ethanol.
- (e) One (1) diesel-fired emergency generator, identified as Unit #1, installed on July 31, 2003 and constructed in 2010, with a maximum capacity of 1850 hp, with emissions uncontrolled, and exhausting to the atmosphere.

[The diesel-fired emergency generator, identified as Unit #1 is an existing affected facility under 40 CFR 63, Subpart ZZZZ.]

- (f) One (1) diesel-fired emergency generator, identified as Unit #2, installed on November 19, 2003 and constructed in 2010, with a maximum capacity of 2922 hp, with emissions uncontrolled, and exhausting to the atmosphere.

[The diesel-fired emergency generator, identified as Unit #2 is an existing affected facility under 40 CFR 63, Subpart ZZZZ.]

<b>Insignificant Activities</b>
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The source also consists of the following insignificant activities:

- (a) Slipcoating operations consisting of the mixing and coating of medical devices with solids mixed with isopropyl alcohol and water, isopropyl alcohol and methylene chloride, or ethanol to create a hydrophilic surface which is cured by ultraviolet light.
- (b) The following storage containers:
- (1) nine (9) 100% ethylene oxide storage cylinders with a maximum storage capacity of 400 pounds of ethylene oxide each (3,600 pounds total). These are portable cylinders that will be connected to the sterilization process.
  - (2) nine (9) 100% ethylene oxide storage cylinders each with a maximum storage capacity of 400 pounds of ethylene oxide on standby for connection to the sterilization process as cylinders are emptied.
  - (3) up to four (4) additional 100% ethylene oxide storage cylinders each with a maximum storage capacity of 400 pounds of ethylene oxide to be stored on site.
- (c) Three (3) liquor storage tanks, identified as Tanks A, B, and C, each with a working storage capacity of 5,870 gallons, all venting to the wet acid pre-scrubber, exhausting through one (1) stack, identified as HV01.
- (d) Gluing, heat forming, tapering, marking and printing operations associated with manufacturing activities and product assembly, exhausting through building exhausts and one (1) stack, identified as S10.
- (e) Natural gas-fired combustion sources including the following:

Emission units	Construction	ID	Heat Input Capacity (MMBtu/hr)	
NG boiler	2003	C241-F	2.1349	uncontrolled, exhausting to stack
NG boiler	2003	C242-F	2.1349	uncontrolled, exhausting to stack
NG boiler	2006	C230-F	1.68	uncontrolled, exhausting to stack
NG boiler	2006	C231-F	1.68	uncontrolled, exhausting to stack
NG boiler	2006	C233-F	0.85	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B001	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B002	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B003	4.00	uncontrolled, exhausting to stack
Total			20.48	

- (f) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (g) Application of oils, greases, lubricants, or other nonvolatile materials applied as temporary protective coatings.
- (h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (i) Closed loop heating and cooling systems;
- (j) Exposure chambers ("towers", "columns"), for curing of ultra-violet inks and ultra-violet coatings where heat is the consequential discharge.
- (k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (l) Heat exchanger cleaning and repair.
- (m) Package and Prep operations, exhausting through one (1) stack, identified as S07.
- (n) Heat forming, taping, masking, and printing operations exhausting through various building exhausts.
- (o) ABRM Catheter Impregnation Process consisting of the following:
  - (1) A total of two (2) hoods with six (6) emersion tanks per hood and two (2) wells per tank for a total of 24 wells, with a total capacity of 2930 cubic inches and an average weekly usage of 27.5 liters of solvent and antibiotic solution.
  - (2) A total of three (3) drying hoods for silicon or polyurethane tubes.
  - (3) A total of one (1) formulation and mixing booth, where the immersion solution is mixed, with potential single HAP (Methanol) emissions of 0.75 tons per year and potential VOC emission of 4.04 tons per year.
  - (4) A total of one (1) formulation and mixing booth for butyl acetate addition and mixing with a potential VOC emission of 0.67 tons per year.
- (p) Paclitaxel Treatment Process consisting of the following:
  - (1) One (1) raw materials mix hood;
  - (2) Two (2) Paclitaxel treatment booths; and
  - (3) Four (4) Paclitaxel aeration booths.

with potential VOC emissions of less than 15 pounds per day for each booth.

**Emission Units and Pollution Control Equipment  
Constructed Under the Provisions of 326 IAC 2-1.1-3 (Exemptions)**

As part of this permitting action, the source requested to add the following existing emission units constructed under the provisions of 326 IAC 2-1.1-3 (Exemptions):

(e) Natural gas-fired combustion sources including the following:

Emission units	Construction	ID	Heat Input Capacity (MMBtu/hr)	
NG boiler	2018	EUN1-HHW-B001	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B002	4.00	uncontrolled, exhausting to stack
NG boiler	2018	EUN1-HHW-B003	4.00	uncontrolled, exhausting to stack

These emission units are identified under 326 IAC 2-8-10(a)(10).

The total potential to emit of the emission units is less than levels specified at 326 IAC 2-1.1-3(e)(1)(A) through (G) and the addition of the emission unit(s) did not require the source to transition to a higher operation permit level. Therefore, pursuant to 326 IAC 2-1.1-3(e), the permit revision requirements under 326 IAC 2-8-11.1, including the requirement to submit an application, do not apply to the emission units.

See Appendix A of this Technical Support Document for detailed emission calculations.

**Enforcement Issue**

There are no enforcement actions pending.

**Emission Calculations**

See Appendix A of this Technical Support Document for detailed emission calculations.

**County Attainment Status**

The source is located in Monroe County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. <sup>1</sup>
PM <sub>2.5</sub>	Unclassifiable or attainment effective April 15, 2005, for the 2012 annual PM <sub>2.5</sub> standard.
PM <sub>2.5</sub>	Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour PM <sub>2.5</sub> standard.
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Unclassifiable or attainment effective January 29, 2012, for the 2010 NO <sub>2</sub> standard.
Pb	Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.
<sup>1</sup> Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	

(a) Ozone Standards  
Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when



evaluating the rule applicability relating to ozone. Monroe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM<sub>2.5</sub>**  
Monroe County has been classified as attainment for PM<sub>2.5</sub>. Therefore, direct PM<sub>2.5</sub>, SO<sub>2</sub>, and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**  
Monroe County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

#### **Fugitive Emissions**

Since this type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B), and there is no applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

#### **Greenhouse Gas (GHG) Emissions**

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at [http://www.supremecourt.gov/opinions/13pdf/12-1146\\_4g18.pdf](http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf)) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

### Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

	Unrestricted Potential Emissions (ton/year)									
	PM <sup>1</sup>	PM <sub>10</sub> <sup>1</sup>	PM <sub>2.5</sub> <sup>1, 2</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs	Single HAP <sup>3</sup>	
Sterilization (S1 to S7)	-	-	-	-	-	37.88	-	37.88	37.88	Ethylene Oxide
Sterilization (S8 to S9)	-	-	-	-	-	24.04	-	24.04	24.04	Ethylene Oxide
Surface Coating	-	-	-	-	-	2.05	-	0.01	0.01	Methanol
Miscellaneous Cleaning with IPA, Methanol, Ethanol	-	-	-	-	-	9.47	-	-	-	
Catheter Impregnation	-	-	-	-	-	4.04	-	0.75	0.75	Methanol
Paclitaxel Treatment	-	-	-	-	-	4.77	-	-	-	
Boilers	0.17	0.67	0.67	0.05	8.78	0.48	7.39	0.17	0.16	Hexane
Emergency Diesel Generators	0.84	0.48	0.48	4.83	28.63	0.84	6.56	0.01	0.006	Benzene
Insignificant Activities*	0.14	0.14	0.14	-	-	0.32	-	0.17	0.09	TCE
<b>Total PTE of Entire Source</b>	<b>1.14</b>	<b>1.29</b>	<b>1.29</b>	<b>4.88</b>	<b>37.43</b>	<b>83.88</b>	<b>13.95</b>	<b>63.03</b>	<b>61.92</b>	<b>Ethylene Oxide</b>
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10	
PSD Major Source Thresholds	250	250	250	250	250	250	250			

<sup>1</sup>Under the Part 70 Permit program (40 CFR 70), PM<sub>10</sub> and PM<sub>2.5</sub>, not particulate matter (PM), are each considered as a "regulated air pollutant."  
<sup>2</sup>PM<sub>2.5</sub> listed is direct PM<sub>2.5</sub>.  
<sup>3</sup>Single highest source-wide HAP  
\*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed unrestricted potential emissions of the source.

- (a) The potential to emit of each criteria pollutant is less than one hundred (100) tons per year.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(30)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the source will be issued FESOP Renewal because the source will limit HAP emissions to less than the Title V major source threshold levels. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) subject to the provisions of 326 IAC 2-7.

### Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this FESOP renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
	PM <sup>1</sup>	PM <sub>10</sub> <sup>1</sup>	PM <sub>2.5</sub> <sup>1,2</sup>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs	Single HAP <sup>3</sup>	
Sterilization (S1 to S7)	-	-	-	-	-	9.42	-	9.42	9.42	Ethylene Oxide
Sterilization (S8 to S9)	-	-	-	-	-		-			Ethylene Oxide
Surface Coating	-	-	-	-	-	2.05	-	0.01	0.01	Methanol
Miscellaneous Cleaning with IPA	-	-	-	-	-	9.47	-	-	-	
Catheter Impregnation	-	-	-	-	-	4.04	-	0.75	0.75	Methanol
Paclitaxel Treatment	-	-	-	-	-	4.77	-	-	-	
Boilers	0.17	0.67	0.67	0.05	8.78	0.48	7.38	0.17	0.16	Hexane
Emergency Diesel Generators	0.84	0.48	0.48	4.83	28.63	0.84	6.56	0.01	0.01	Benzene
Insignificant Activities*	0.14	0.14	0.14	-	-	0.32	-	0.17	0.09	TCE
<b>Total PTE of Entire Source</b>	<b>1.14</b>	<b>1.29</b>	<b>1.29</b>	<b>4.88</b>	<b>37.43</b>	<b>31.38</b>	<b>13.95</b>	<b>10.53</b>	<b>9.42</b>	<b>Ethylene Oxide</b>
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10	
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA	

<sup>1</sup>Under the Part 70 Permit program (40 CFR 70), PM<sub>10</sub> and PM<sub>2.5</sub>, not particulate matter (PM), are each considered as a "regulated air pollutant."  
<sup>2</sup>PM<sub>2.5</sub> listed is direct PM<sub>2.5</sub>.  
<sup>3</sup>Single highest source-wide HAP.  
\*Fugitive HAP emissions are always included in the source-wide emissions.

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

The source opted to take limit in order to render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA) See Technical Support Document (TSD) State Rule Applicability Entire Source section, 326 IAC 2-8 (FESOP), for more information regarding the limits.

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (b) This source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

#### Federal Rule Applicability

Federal rule applicability for this source has been reviewed as follows:

#### New Source Performance Standards (NSPS):

- (a) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60.40c, Subpart Dc, are not included in the permit for the eight (8) boilers (C241-F, C242-F, C230-F, C231-F, C233-F, EUN1-HHW-B001, EUN1-

HHW-B002, and EUN1-HHW-B003) because each boiler's capacity is less than the rule applicability threshold of 10 MMBtu per hour.

- (b) The requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.110b, Subpart Kb) are not included in the permit for the three (3) 5,870 gallon liquor storage tanks (Tanks A, B, and C) because the maximum storage capacity of each tank is less than 75 cubic meters (19,813 gallons).
- (c) The requirements of the National Emission Standards for National Emission Standard for Equipment Leaks (Fugitive Emission Sources), 40 CFR 61, Subpart V are not included in the permit. This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for equipment that is in volatile hazardous air pollutant (VHAP) service. A VHAP is defined as a substance regulated under 40 CFR Part 61 for which a standard for equipment leaks of the substance has been proposed and promulgated. Ethylene oxide is not a VHAP pursuant to this definition because it is not regulated under 40 CFR Part 61, and no standards for equipment leaks of this substance has been proposed or promulgated. Therefore, these requirements are not included in the permit.
- (d) The requirement of the New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines, 40 CFR, Subpart IIII (60.4200 - 60.4219) (326 IAC 12) are not included in this permit, because the two (2) diesel-fired emergency generators, identified as Unit #1 and Unit #2, both were constructed/ordered prior to July 11, 2005 and manufactured prior to April 1, 2006.
- (e) The requirements of the New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ (60.4230 - 60.4248) (326 IAC 12), are not included in this permit, because the two (2) diesel-fired emergency generators, identified as Unit #1 and Unit #2, are compression ignition internal combustion engine and not a stationary spark ignition (SI) internal combustion engines (ICE).
- (f) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

**National Emission Standards for Hazardous Air Pollutants (NESHAP):**

- (a) This source is still subject to the National Emission Standards for Hazardous Air Pollutants for Ethylene Oxide Emissions Standards for Sterilization Facilities, 40 CFR 63, Subpart O, which is incorporated by reference as 326 IAC 20-5, because it is a source that used 10 tons or more of ethylene oxide in any consecutive 12-month period after December 6, 1996. Therefore, it is subject to the emission standards for sources using 10 tons or more of ethylene oxide per consecutive 12-month period. The compliance date for Subpart O for this source was December 6, 1998. The units subject to this rule include the following:
  - (1) Seven (7) ethylene oxide sterilization chambers, identified as S1 through S7, Sterilization chambers S1 through S6 were constructed in 1998 and sterilization chamber S7 was constructed in 2004, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, all exhausting to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01, and with chamber exhaust vents (back vents) exhausting to one (1) single non-regenerable dry bed reactor which exhausts through one (1) stack, identified as SV01.
  - (2) Two (2) ethylene oxide sterilization chambers, identified as S8 and S9, constructed in 2012, each using Oxyfume 2000, Oxyfume 2002 or pure ethylene oxide for sterilization, each exhausting through a vacuum pump to one (1) primary wet acid scrubber which exhausts through one (1) stack, identified as PS01; and with S8 and S9 chamber exhaust vents (back vents) exhausting to three (3) non-regenerable dry bed reactors, which exhaust through one (1) stack, identified as SV02.

- (3) Fourteen (14) aeration rooms, identified as HC1 through HC14, all constructed in 1998, of which zero (0) to a maximum of six (6) can exhaust through one (1) wet acid pre-scrubber and three (3) dry bed reactors (in parallel), with the remaining units exhausting solely through the three (3) dry bed reactors (in parallel), all of which exhaust through one (1) stack, identified as HV01.

These emission units, identified as ethylene oxide sterilization chambers, identified as S1 through S9 and Fourteen (14) aeration rooms, identified as HC1 through HC14 are subject to the following portions of 40 CFR 63, Subpart O:

- (1) 40 CFR 63.360
- (2) 40 CFR 63.361
- (3) 40 CFR 63.362
- (4) 40 CFR 63.363(a), (b)(1), (b)(2), (c), (e), (f)
- (5) 40 CFR 63.364(a), (b), (d), (e)
- (6) 40 CFR 63.365
- (7) 40 CFR 63.366
- (8) 40 CFR 63.367
- (9) 40 CFR 63.368

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the source except as otherwise specified in 40 CFR 63, Subpart O.

- (b) Based on this evaluation, this source is subject to 40 CFR 63, Subpart ZZZZ. On May 4, 2016, the U.S. Court of Appeals for the D.C. Circuit issued a mandate vacating paragraphs 40 CFR 63.6640(f)(2)(ii) - (iii) of NESHAP Subpart ZZZZ. Therefore, these paragraphs no longer have any legal effect and any engine that is operated for purposes specified in these paragraphs becomes a non-emergency engine and must comply with all applicable requirements for a non-emergency engine.

For additional information, please refer to the USEPA's Guidance Memo:  
<https://www3.epa.gov/airtoxics/icengines/docs/RICEVacaturGuidance041516.pdf>

Since the federal rule has not been updated to remove these vacated requirements, the text below shows the vacated language as ~~strike through~~ text. At this time, IDEM is not making any changes to the permit's attachment due to this vacatur. However, the permit will not reference the vacated requirements, as applicable.

40 CFR 63.6640(f)(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) ~~through (iii)~~ of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

- (i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
- ~~(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies~~

~~(incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.~~

- ~~(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.~~

The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) (326 IAC 20-82)), are included in the permit for the emergency generators Unit #1 and Unit #2, because they are considered new (construction commenced on or after June 12, 2006) stationary reciprocating internal combustion engine (RICE) at an area source of hazardous air pollutants (HAP). Unit #1 and Unit #2 commenced construction in 2010. The units subject to this rule include the following:

- (1) One (1) diesel-fired emergency generator, identified as Unit #1, installed on July 31, 2003 and constructed in 2010, with a maximum capacity of 1850 hp, with emissions uncontrolled, and exhausting to the atmosphere.
- (2) One (1) diesel-fired emergency generator, identified as Unit #2, installed on November 19, 2003 and constructed in 2010, with a maximum capacity of 2922 hp, with emissions uncontrolled, and exhausting to the atmosphere.

The emergency diesel fired generators identified as Unit #1 and Unit #2 are subject to the following portions of 40 CFR 63, Subpart ZZZZ.

- (a) 40 CFR 63.6580
- (b) 40 CFR 63.6585
- (c) 40 CFR 63.6590(a)(1)(iii)
- (d) 40 CFR 63.6640(f)(1), (2)(i), (3), (4)

Pursuant to 40 CFR 63.6665, the two (2) diesel-fired emergency generators, identified as Unit #1 (1850 Hp) and Unit #2 (2922 Hp) do not have to meet the requirements of 40 CFR 63, Subpart A (General Provisions), since they are considered a new stationary RICE located at an area source of HAP emissions.

- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products 40 CFR 63, Subpart MMMM and 326 IAC 20-80 are not included in the permit for the manual plastic tubing and metal wiring slip coating operation, miscellaneous cleaning, catheter impregnation, and the paclitaxel treatment, since these emission units are not part of a major source of emissions of HAP. Therefore, these requirements are not included in the permit.
- (d) The requirements of the of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for the Flexible Polyurethane Foam Fabrication Operations 40 CFR 63, Subpart M MMMM (5M) and 326 IAC 20-66 are not included in the permit for the polyurethane tubes drying booths, because the source is not a major source for HAPs emissions and does not operate a flexible polyurethane foam fabrication.
- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Plastic Parts and Products 40 CFR 63, Subpart PPPP (4P) and 326 IAC 20-81 are still not included in the permit for the manual plastic tubing and metal wiring slip coating operation, miscellaneous cleaning, catheter impregnation, and the paclitaxel treatment, because these emission units are not part of a major source of emissions of HAP. Therefore, these requirements are not included in the permit.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Hospital Ethylene Oxide Sterilizers (40 CFR 63, Subpart W WWWW) (5W). This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for an ethylene

oxide sterilization facility at a hospital that is an area source of hazardous air pollutant (HAP) emissions. This source is not a hospital; therefore, these requirements are still not included in the permit.

- (g) The requirements of 40 CFR 63, Subpart HHHHHH (6H), NESHAP for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, are not included in this permit, since this area source does not perform paint stripping using chemical strippers that contain methylene chloride for the removal of dried paint, does not perform spray application of coatings to motor vehicles or mobile equipment, and does not perform spray application of coatings that contain chromium, lead, manganese, nickel, or cadmium to a plastic and/or metal substrates.
- (h) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Part 63, 326 IAC 14, and 326 IAC 20) included in the permit.

**Compliance Assurance Monitoring (CAM):**

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

<b>State Rule Applicability - Entire Source</b>
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State rule applicability for this source has been reviewed as follows:

**326 IAC 1-6-3 (Preventive Maintenance Plan)**

The source is subject to 326 IAC 1-6-3.

**326 IAC 2-2 (PSD)**

PSD applicability is discussed under the Potential to Emit After Issuance section of this document.

**326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**

The unlimited potential to emit of HAPs of the nine (9) ethylene oxide sterilization chambers, identified as S1 through S9 constructed between 1998 to 2012, are each less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply to each of the sterilization chambers.

**326 IAC 2-6 (Emission Reporting)**

This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is not located in Lake, Porter, or LaPorte County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

**326 IAC 2-8-4 (FESOP)**

FESOP applicability is discussed under the Potential to Emit After Issuance section of this document.

**FESOP HAP Limits**

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA), and render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following:

- (a) The total ethylene oxide emissions from the nine (9) ethylene oxide sterilization chambers and the fourteen (14) aeration rooms shall be less than 9.42 tons per twelve (12) consecutive month period, total, with compliance determined at the end of each month

Compliance with these limits, combined with the potential to emit HAP from all other emission units at the source, shall limit the source-wide potential to emit single HAP to less than 10 tons per year and the source-wide potential to emit total HAPs to less than 25 tons per year shall render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA) and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

### 326 IAC 5-1 (Opacity Limitations)

This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1)

### 326 IAC 6-4 (Fugitive Dust Emissions Limitations)

Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

### 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is not subject to the requirements of 326 IAC 6-5, because the source has potential fugitive particulate emissions of less than twenty-five (25) tons per year.

## State Rule Applicability – Individual Facilities

State rule applicability has been reviewed as follows:

### 326 IAC 6-2-1 (Particulate Emission Limitations for Sources of Indirect Heating)

326 IAC 6-2-4(a) (Particulate Emission Limitations for Source of Indirect Heating)

Pursuant to 326 IAC 6-2-1(d), the eight (8) natural gas fired boilers ID as follows:

C241-F, C242-F constructed in 2003 C230-F, C231-F, C233-F constructed in 2006  
EUN1-HHW-B001, EUN1-HHW-B002, and EUN1-HHW-B003 constructed in 2018  
received permit to construct after September 21, 1983 are subject to 326 IAC 6-2-4, and  
The particulate matter emissions (Pt) for the eight (8) boilers (ID C241-F, C242-F  
C230-F, C231-F, C233-F, EUN1-HHW-B001, EUN1-HHW-B002, and EUN1-HHW-B003) shall be limited  
by the following equation:

$$Pt = 1.09/Q^{0.26}$$

where Pt = Pounds of particulate matter emitted per million Btu  
(lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in  
million Btu per hour (MMBtu/hr) heat input.

Year Constructed	Unit ID	Heat input capacity added with year constructed (MMBtu/hr)	Q (total source capacity) (MMBtu/hr)	6-2-4 Emission Limit (Pt) (lb PM /MMBtu)	Date of Unit Removal	Comply with the Limit? (Y/N (lb PM /MMBtu)
2000	<del>C238-F</del>	<del>0.45</del>	<del>0.45</del>	<del>—</del>	2019	<del>Y-0.002</del>
2003	<del>C240-F</del>	1.26 + 2.1349 + 2.1349 = 5.53	0.45 + 5.53 = 5.98	<del>—</del>	2019	<del>Y-0.002</del>
	C241-F			0.6		
	C242-F			0.6		
2004	<del>C239-F</del>	1.26+1.5 = 2.76	5.98 + 2.76 = 8.74	<del>—</del>	2019	<del>Y-0.002</del>
	<del>C246-F</del>			<del>—</del>	2019	
2006	C230-F	1.68 + 1.68 + 7.0 + 0.85 = 11.21	8.74 + 11.21 = 19.95	0.5		Y - 0.002
	C231-F			0.5		Y- 0.002
	<del>C232-F</del>			<del>—</del>	2019	
	C233-F			0.5		
2010	<del>C364-F</del>	0.5	19.95 + 0.5 = 20.45	<del>0.5</del>	2019	<del>Y-0.002</del>
2018	EUN1-HHW-B001	4+4+4 =12	20.45 + 12 =32.45	0.44		Y- 0.002
2018	EUN1-HHW-B002			0.44		Y- 0.002
2018	EUN1-HHW-B003			0.44		Y- 0.002

Note: Emission units shown in strikethrough were subsequently removed from the source. The effect of removing these units on "Q" is shown in the year the boiler was removed.

For Q less than 10 mmBtu/hr, Pt shall not exceed 0.6. For Q greater than or equal to 10,000 mmBtu/hr, Pt shall not exceed 0.1.



### **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**

- (a) Pursuant to 326 IAC 6-3-1(b)(15), the one (1) manual plastic tubing and metal wiring slip coating operation, a surface coating operation, at this source is not subject to this rule because it uses less than 5 gallons per day of coating.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply and shall not exceed 0.551 pounds per hour. This limit applies to the following insignificant activities:
  - (1) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

### **326 IAC 7-1.1 Sulfur Dioxide Emission Limitations**

None of the natural gas-fired boilers is not to 326 IAC 326 IAC 7-1.1 because each has a potential to emit sulfur dioxide (SO<sub>2</sub>) of less than 25 tons per year or 10 pounds per hour.

### **326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)**

#### **(a) Sterilization process S1-S7**

The sterilization process S1-S7 were constructed after January 1, 1980, and its unlimited VOC potential emissions are equal to or greater than twenty-five (25) tons per year and the emission units are not regulated by other rules in 326 IAC 8. This units went through BACT Analysis in F015-8436-00030 issued on February 16, 1998. The BACT determined is the following:

The source shall operate the control technology used to comply with the requirements of 40 CFR 60.360 through 60.367, which apply to the sterilization process, in addition to the following controls:

- (1) A single nonregenerable dry bed reactor to reduce ethylene oxide emissions to a maximum concentration of 1 ppmv or by at least 99 percent, whichever is less stringent, to control the seven (7) sterilization chamber exhaust vents.
- (2) A wet acid pre-scrubber with three (3) dry bed reactors (in parallel) to reduce ethylene oxide emissions to a maximum concentration of 1 ppmv or by at least 99 percent whichever is less stringent, to control emissions from the fourteen (14) aeration rooms.

Since the requirement to operate the dry bed reactor controlling the emissions from the sterilization chamber exhaust vents (back vents) in the original FESOP was also part of the requirements to satisfy 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the source is still required to operate the dry bed reactor controlling emissions from the sterilization chamber exhaust vents (back vents) for units S1 through S7 in order to comply with 326 IAC 8-1-6, even though a control for emissions from back vents is not required by NESHAP Subpart O [40 CFR 63.36]; the source is also required to operate the primary wet acid scrubber to control emissions from the sterilization chambers, as well as the wet acid pre-scrubber and three (3) dry bed reactors (in parallel) to control emissions from the fourteen (14) aerations rooms in order to comply with the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements).

Note: Sterilizers S8 and S9 were approved for construction in 2012 and are not subject to the requirements of 326 IAC 8-1-6. However, the Permittee has voluntarily elected to install three (3) non-regenerable dry bed reactors to control emissions from the sterilization chamber exhaust vents (back vents) from the two (2) sterilizers S8 and S9.

- (b) Even though, the following emission units were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because each of their unlimited VOC potential emissions is less than twenty-five (25) tons per year.

- The Sterilization chambers S8 and S9
  - Miscellaneous cleaning with isopropyl alcohol (IPA) , methanol and ethanol.
- One (1) diesel-fired emergency generator, identified as Unit #1
- One (1) diesel-fired emergency generator, identified as Unit #2
- One (1) manual plastic tubing and metal wiring slip coating operation
- Gluing, heat forming, tapering, marking and printing operations associated with manufacturing activities and product assembly
- Natural gas fired combustion sources with a total heat input of 20.45 MMBtu per hour,
- TDMAC package prep operations
- heat forming, taping, masking, and printing operations

### **326 IAC 8-2-9 (Miscellaneous Metal Coating)**

Pursuant to 326 IAC 8-2-1(a)(2), the metal wiring slip coating operation, constructed in 1986, is not subject to the requirements of 326 IAC 8-2-9, because potential VOC emissions are less than 25 tons per year.

### **Degreasers**

### **326 IAC 8-3-2 (Cold Cleaner Operations)**

The miscellaneous IPA cleaning hand dipped operation is not subject to 326 IAC 8-3-2 (Cold Cleaner Operations) because it does not meet the definition of a degreaser as defined in 326 IAC 1-2-18.5 means a tank containing organic solvent at a temperature below the boiling point of the solvent that is used to spray, brush, flush, or immerse an article for the purpose of cleaning or degreasing the article.

### **326 IAC 8-6-2 (Organic Solvent Emission Limitations)**

Pursuant to 326 IAC 8-6-1(2), the miscellaneous cleaning hand dipped operations are not subject to the provisions of 326 IAC 8-6-2 because the cleaning operation was constructed after 1980.

### **326 IAC 9-1 (Carbon Monoxide Emission Limits)**

The requirements of 326 IAC 9-1 do not apply to the eleven (11) natural gas-fired boilers, because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

### **326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)**

The requirements of 326 IAC 10-3 do not apply to the eleven (11) natural gas-fired boilers, since this unit is not a blast furnace gas-fired boiler, a Portland cement kiln, or a facility specifically listed under 326 IAC 10-3-1(a)(2).

<b>Compliance Determination and Monitoring Requirements</b>
-------------------------------------------------------------

Permits issued under 326 IAC 2-8 are required to assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

(a) The Compliance Determination Requirements applicable to this source are as follows:

Testing Requirements:

Summary of Testing Requirements					
Emission Unit	Control Device	Timeframe for Testing or Date of Most Recent Valid Demonstration	Pollutant/ Parameter	Frequency of Testing	Authority
sterilization chamber S1 through S7; PS01	primary wet acid scrubber	07/27/2018	ethylene oxide emissions (VOC, HAPs)	Every 5 year	326 IAC 8-1-6 and 40 CFR 63, Subpart O
sterilization chamber S8 through S9; PS01		07/27/2018	ethylene oxide emissions (VOC, HAPs)	Every 5 year	
fourteen (14) aeration rooms; HV01	wet acid pre-scrubber three (3) dry bed Reactors	7/27/2018	ethylene oxide emissions (VOC, HAPs)	Every 5 year	

(b) The Compliance Monitoring Requirements applicable to this source are as follows:

Emission Unit	Type of Parametric Monitoring	Frequency	Range or Specification
the sterilization chamber vents S1-S9	The primary wet acid scrubber (scrubbant/ liquor flowrate)	Once/week	liquid level indicator to measure the scrubber liquor tank level.
the sterilization chamber vents S1-S7	single non-regenerable dry bed reactor (concentration reading from the gas chromatography)	Once/week	< 1 ppmv or at least 99 percent
		running record of total equivalent cycles	equivalent cycles for a 512 ft <sup>3</sup> sterilizer
aeration room vents	the wet acid pre-scrubber	Once/week	liquid level indicator to measure the scrubber liquor tank level
	three (3) dry bed reactors (concentration reading from the gas chromatography)	Once/week	< 1 ppmv or at least 99 percent
		running record of total equivalent cycles	equivalent cycles for a 512 ft <sup>3</sup> sterilizer

These monitoring conditions are necessary because the primary wet acid scrubber and the single non-regenerable dry bed reactor controlling sterilization chamber vents, and the wet acid pre-scrubber and three (3) dry bed reactors controlling aeration room vents must operate properly to ensure compliance with 40 CFR 63, Subpart O and 326 IAC 20-5, 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) and 326 IAC 2-8 (FESOP).

### Proposed Changes

As part of this permit approval, the permit may contain new or different permit conditions and some conditions from previously issued permits/approvals may have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes.

The following changes were made to conditions contained previously issued permits/approvals (these changes may include Title I changes):

Change 1: The VOC BACT requirements set forth by the the Condition D.1.1(b) for aeration rooms at Ellettsville North was based on the aeration room MACT standards in 40 CFR Part 63.362(a) Table 1, Subpart O and had been stated in previous issued permit OP No. F105-15590-00030, issued on October 14, 2004. However, the language was accidentally removed and was not included in subsequent issued permits. The source has requested the language be re-instated in this renewal as follows:

#### D.1.1 Ethylene Oxide [326 IAC 8-1-6]

Pursuant to FESOP F105-8436-00030, issued on February 16, 1998, and 326 IAC 8-1-6, the following control technology will also serve as the Best Available Control Technology (BACT) for the sterilization operations S1 through S7. The control technology used to comply with the requirements of 40 CFR 63.360 through 63.367, which apply to the sterilization process, in addition to the following:

- (a) .....
- (b) ~~A wet acid pre-scrubber with three (3) dry bed reactors (in parallel) with a control efficiency of 99% to control emissions from the fourteen (14) aeration rooms.~~ **A wet acid pre-scrubber with three (3) dry bed reactors (in parallel) to reduce ethylene oxide emissions to a maximum concentration of 1 ppmv or or by at least 99 percent whichever is less stringent, to control emissions from the fourteen (14) aeration rooms.**

### Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on November 21, 2018.

The operation of this existing stationary medical device manufacturing and sterilization operation shall be subject to the conditions of the attached proposed FESOP Renewal No. F 105-40744-00030.

The staff recommends to the Commissioner that the FESOP Renewal be approved.

### IDEM Contact

- (a) If you have any questions regarding this permit, please contact Anh Nguyen, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-5334 or (800) 451-6027, and ask for Anh Nguyen or (317) 233-5334
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A: Emissions Calculations  
Source-Wide Summary**

**Company Name: Cook Incorporated**  
**Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429**  
**Permit Renewal No.: 105-40744-00030**  
**Reviewer: Anh Nguyen**

Uncontrolled Potential To Emit of the Entire Source (tons/year)										
Process / Emission Unit	PM	PM10	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	Total HAPs	Single HAP	
Sterilization (S1 to S7)	-	-	-	-	-	37.88	-	37.88	37.88	Ethylene Oxide
Sterilization (S8 to S9)	-	-	-	-	-	24.04	-	24.04	24.04	
Surface Coating	-	-	-	-	-	2.05	-	0.01	0.01	Methaol
Miscellaneous Cleaning with IPA	-	-	-	-	-	9.47	-	0.00	0.00	Methanol
Catheter Impregnation	-	-	-	-	-	4.04	-	0.75	0.75	
Paclitaxel Treatment	-	-	-	-	-	4.77	-	0.00	0.00	
Boilers	0.17	0.67	0.67	0.05	8.79	0.48	7.39	0.17	0.16	Hexane
Emergency Diesel Generators	0.84	0.48	0.48	4.83	28.63	0.84	6.56	0.01	0.01	Benzene
Insignificant Activities*	0.14	0.14	0.14	-	-	0.32	-	0.17	0.09	TCE
Total PTE of Entire Source	1.14	1.29	1.29	4.88	37.43	83.88	13.95	63.03	61.92	Ethylene Oxide

This Significant Permit Revision includes the addition of two (2) new sterilization chambers, with PTE of 24.04 tons per year of VOC and Ethylene Oxide (ETO)

\*Insignificant Activity Emissions represent emissions from various assembly operations including gluing, package prep and printing.

Limited Potential To Emit of the Entire Source (tons/year)										
Process / Emission Unit	PM	PM10	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	Total HAPs	Single HAP	
Sterilization (S1 to S7)	-	-	-	-	-	9.42	-	9.42	9.42	ethylene oxide
Sterilization (S8 to S9)	-	-	-	-	-		-			
Surface Coating	-	-	-	-	-	2.05	-	0.01	0.01	Methanol
Miscellaneous Cleaning with IPA	-	-	-	-	-	9.47	-	0.00	0.00	
Catheter Impregnation	-	-	-	-	-	4.04	-	0.75	0.75	Methanol
Paclitaxel Treatment	-	-	-	-	-	4.77	-	0.00	0.00	
Boilers	0.17	0.67	0.67	0.05	8.79	0.48	7.39	0.17	0.16	Hexane
Emergency Diesel Generators	0.84	0.48	0.48	4.83	28.63	0.84	6.56	0.01	0.01	Benzene
Insignificant Activities	0.14	0.14	0.14	-	-	0.32	-	0.17	0.09	TCE
Total PTE of Entire Source	1.14	1.29	1.29	4.88	37.43	31.38	13.95	10.53	9.42	Ethylene Oxide

Controlled Potential To Emit of the Entire Source (tons/year)										
Process / Emission Unit	PM	PM10	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	Total HAPs	Single HAP	
Sterilization (S1 to S7)	-	-	-	-	-	0.46	-	0.46	0.46	Ethylene Oxide
Sterilization (S8 to S9)	-	-	-	-	-	0.29	-	0.29	0.29	
Surface Coating	-	-	-	-	-	2.05	-	0.01	0.01	Methanol
Miscellaneous Cleaning with IPA	-	-	-	-	-	9.47	-			Methanol
Catheter Impregnation	-	-	-	-	-	4.04	-	0.75	0.75	
Paclitaxel Treatment	-	-	-	-	-	4.77	-			
Boilers	0.17	0.67	0.67	0.05	8.79	0.48	7.39	0.17	0.16	Hexane
Emergency Diesel Generators	0.84	0.48	0.48	4.83	28.63	0.84	6.56	0.01	0.01	Benzene
Insignificant Activities	0.14	0.14	0.14	-	-	0.32	-	0.17	0.09	TCE
Total PTE of Entire Source	1.14	1.29	1.29	4.88	37.43	22.71	13.95	1.86	0.75	Ethylene Oxide

**Appendix A: Emissions Calculations  
HAP Emissions Summary**

Company Name: Cook Incorporated  
Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429  
Permit Renewal No.: 105-40744-00030  
Reviewer: Anh Nguyen

**HAP Emissions -Uncontrolled**

Unit Number	Equipment Description	PTE (ton/yr)																	Total HAPs	Highest Single HAP	
		Acetaldehyde	Acrolein	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Methanol	Ethylene Oxide	Toluene	Xylene	Lead	Cadmium	Chromium	Manganese	Nickel					
	Sterilization (S1 to S7)								37.88								37.88	37.88	Ethylene Oxide		
	Sterilization (S8 to S9)								24.04								24.04	24.04			
	Surface Coating							0.01									0.01	0.01	Methanol		
	Miscellaneous Cleaning with IPA																0.00	0.00	Methanol		
	Catheter Impregnation							0.75									0.75	0.75			
	Paclitaxel Treatment																	0.00	Hexane		
	Boilers			0.00	1.06E-04	0.01	0.16		0.000299		4.40E-05	9.67E-05	1.23E-04	3.34E-05	1.85E-04	0.17	0.16				
	Emergency Diesel Generators	2.10E-04	6.58E-05	6.48E-03		6.59E-04			2.35E-03	1.61E-03							0.01	0.01	Xylene		
	Insignificant Activities																0.17	0.09	TCE		
	Total each HAP	2.10E-04	6.58E-05	6.67E-03	1.06E-04	0.01	0.16	0.76	61.92	2.65E-03	1.61E-03	4.40E-05	9.67E-05	1.23E-04	3.34E-05	1.85E-04	63.02	61.92	Ethylene Oxide		

**HAP Emissions -Limits**

Unit Number	Equipment Description	PTE (ton/yr)																Total HAPs	Highest Single HAP	
		Acetaldehyde	Acrolein	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Methanol	Ethylene Oxide	Toluene	Xylene	Lead	Cadmium	Chromium	Manganese	Nickel				
	Sterilization (S1 to S7)								9.42								9.42	9.42	Ethylene Oxide	
	Sterilization (S8 to S9)																			
	Surface Coating							0.01									0.01	0.01		
	Miscellaneous Cleaning with IPA																0.00	0.00		
	Catheter Impregnation							0.75									0.75	0.75	Methanol	
	Paclitaxel Treatment																	0.00		
	Boilers			0.01	4.37E-05	0.00	0.07			0.0001238		1.82E-05	4.01E-05	5.10E-05	1.38E-05	7.65E-05	0.08	0.07	Hexane	
	Emergency Diesel Generators	2.10E-04	6.58E-05	6.48E-03		6.59E-04				2.35E-03	1.61E-03						0.01	0.01	Xylene	
	Insignificant Activities																0.17	0.09	TCE	
	Total each HAP	2.10E-04	6.58E-05	1.30E-02	4.37E-05	0.00	0.07	0.76	9.42	2.47E-03	1.61E-03	1.82E-05	4.01E-05	5.10E-05	1.38E-05	7.65E-05	10.44	9.42	Ethylene Oxide	

**HAP Emissions - Controlled**

Unit Number	Equipment Description	PTE (ton/yr)																	Total HAPs	Highest Single HAP	
		Acetaldehyde	Acrolein	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Methanol	Ethylene Oxide	Toluene	Xylene	Lead	Cadmium	Chromium	Manganese	Nickel					
	Sterilization (S1 to S7)								0.46								0.46	0.46	Ethylene Oxide		
	Sterilization (S8 to S9)								0.29								0.29	0.29	Ethylene Oxide		
	Surface Coating							0.01									0.01	0.01			
	Miscellaneous Cleaning with IPA																0.00	0.00			
	Catheter Impregnation							0.75									0.75	0.75	Methanol		
	Paclitaxel Treatment																0.00	0.00			
	Boilers			0.01	4.37E-05	0.00	0.07			0.0001238		1.82E-05	4.01E-05	5.10E-05	1.38E-05	7.65E-05	0.08	0.07	Hexane		
	Emergency Diesel Generators	2.10E-04	6.58E-05	6.48E-03		6.59E-04				2.35E-03	1.61E-03						0.01	0.01	Xylene		
	Insignificant Activities																0.17	0.09	TCE		
	Total each HAP	2.10E-04	6.58E-05	1.30E-02	4.37E-05	0.00	0.07	0.76	0.75	2.47E-03	1.61E-03	1.82E-05	4.01E-05	5.10E-05	1.38E-05	7.65E-05	1.76	0.76	Ethylene Oxide		

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**

**Boilers**

**Company Name: Cook Incorporated**

**Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429**

**Permit Renewal No.: 105-40744-00030**

**Reviewer: Anh Nguyen**

	Unit ID	MMBtu/hr
2018	UN1-HHW-B00	4.00
2018	UN1-HHW-B00	4.00
2018	UN1-HHW-B00	4.0000
		12.00

Heat Input Capacity  
MMBtu/hr

12.00

HHV  
mmBtu  
mmscf

1020

Potential Throughput  
MMCF/yr

103.1

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.10	0.39	0.39	0.03	5.15	0.28	4.33

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

PM2.5 emission factor is filterable and condensable PM2.5 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyd	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.082E-04	6.184E-05	3.865E-03	9.275E-02	1.752E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	2.576E-05	5.668E-05	7.214E-05	1.958E-05	1.082E-04

Total HAPs 9.725E-02  
Single HAP 9.275E-02 Hexane

**Appendix A: Emissions Calculations****Natural Gas Combustion Only****MM BTU/HR <100****Insignificant Combustion****Boilers****Company Name: Cook Incorporated****Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429****Permit Renewal No.: 105-40744-00030****Reviewer: Anh Nguyen**

Constructed	Unit ID	MMBtu/hr
2003	C241-F	2.1349
2003	C242-F	2.1349
2006	C230-F	1.68
2006	C231-F	1.68
2006	C233-F	0.85
		8.48

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
8.48	1020	72.8
		7.647E-05

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100	5.5	84
					**see below		
Potential Emission in tons/yr	0.07	0.28	0.28	0.02	3.64	0.20	3.06

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

PM2.5 emission factor is filterable and condensable PM2.5 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.647E-05	4.370E-05	2.731E-03	6.554E-02	1.238E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.821E-05	4.005E-05	5.098E-05	1.384E-05	7.647E-05

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Total HAPs (tons/yr) = 6.872E-02  
 Single HAP (tons/yr) = 6.554E-02 Hexane



**Appendix A: Potential Emission Calculations**  
**Source Wide Ethylene Oxide (EO) Emissions by Facility**

**Company Name:** Cook Incorporated  
**Address:** 6330 North Matthews Drive, Ellettsville, Indiana 47429  
**Permit Renewal No.:** 105-40744-00030  
**Reviewer:** Anh Nguyen

Existing Sterilization Chamber (S1 through S7)	Stack Vent Identification #	Fraction of EO Usage	Uncontrolled VOC/HAP		Control Efficiency (%)	Controlled VOC/HAP	
			(lbs/yr) <sup>(1)</sup>	(tons/yr) <sup>(1)</sup>		(lbs/yr)	(tons/yr)
Sterilization Chamber (Vacuum) Vents	PS01	0.9504	72,000.0	36.0	99.00%	720	0.36
Sterilization Chamber Exhaust Vents (Back vents)	SV01	0.0034	260.0	0.1	99.00%	2.6	0.0013
Product Transfer	SV01	0.0021	156.00	0.1	0%	156.00	0.078
Aeration (HC1 through HC14)	HV01	0.0441	3,340.0	1.7	99.00%	33.4	0.0167
Total	-	1.00	75,756	37.88	-	912.00	0.46

**Notes**

(1) The Maximum Uncontrolled Emissions were calculated as follows: Potential Emissions = Fraction of EO Usage x [Maximum Production (pallets/hr) x Average EO/Pallet x 8760 hrs/yr]

The Maximum Production and Average EO/Pallet is confidential information, pursuant to 326 IAC 17.1-4

Potential Emissions for Sterilization Chambers S1 through S7 taken from FESOP Second Renewal No. F105-27381-00030, issued August 24, 2009.

VOC and HAP = - ethylene oxide

Proposed Revision (Units S8 and S9)	Stack Vent Identification #	Fraction of EO Usage	Uncontrolled VOC/HAP		Control Efficiency (%)	Controlled VOC/HAP	
			(lbs/yr) <sup>(1)</sup>	(tons/yr) <sup>(1)</sup>		(lbs/yr)	(tons/yr)
Sterilization Chamber (Vacuum) Vents	PS01	0.9500	45,671.0	22.8	99.00%	456.71	0.23
Sterilization Chamber Exhaust Vents (Back vents) <sup>(2)</sup>	CEV01, 02	0.0035	168.0	0.1	99%	1.68	0.00
Product Transfer	-	0.0021	101.0	0.1	0%	101.00	0.05
Aeration (HC1 through HC14)	HV01	0.0444	2,135.0	1.1	99.00%	21.35	0.01
Total	-	1.00	48,075.00	24.0	-	580.74	0.29

<b>Total of 9 uni</b>	<b>61.92</b>		<b>0.75</b>
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**Notes**

(1) The Maximum Uncontrolled Emissions were calculated as follows: Potential Emissions = Fraction of EO Usage x [Maximum Production (pallets/hr) x Average EO/Pallet x 8760 hrs/yr]

The Maximum Production and Average EO/Pallet is confidential information, pursuant to 326 IAC 17.1-4

CFR 63, Subpart O (National Emission Standards for Hazardous Air Pollutants for Ethylene Oxide Emissions Standards for Sterilization Facilities). The existing units, S1 through S7, are required to control the back vents pursuant to the source's 8-1-6 BACT for these units. The source has provided data on these emission chambers to support its emissions information and has been deemed to comply with the applicable emissions limit, 2012.

**Potential to Emit after Significant Permit Revision**  
**Sterilization Chambers S1 through S9**

	Uncontrolled Emissions	Controlled Emissions
Total (lbs/yr)	123,831.00	1,492.74
<b>Total (tons/yr)</b>	<b>61.92</b>	<b>0.75</b>

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## Appendix A: Emission Calculations VOC and Particulate From Surface Coating, Miscellaneous Cleaning Operations, Catheter Impregnation, and Paclitaxel Treatment

Company Name: Cook Incorporated  
Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429  
Permit Renewal No.: 105-40744-00030  
Reviewer: Anh Nguyen

State Potential Emissions (uncontrolled):																	
Material (as applied)	Process	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Maximum Gal of Mat. (gal/hr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	Lb VOC /gal solids	Transfer Efficiency	
Surface Coating																	
(Confidential)	Plastic Tubing & Metal Wiring								7.7	7.66	0.25	6.07	1.11	0.00	197.90	100.00%	
(Confidential)	Plastic Tubing								6.5	6.51	0.21	5.16	0.94	0.00	N/A	100.00%	
Miscellaneous Cleaning																	
(Confidential)	Miscellaneous Cleaning								6.5	6.51	2.16	51.87	9.47	0.00	N/A	100.00%	
Catheter Impregnation																	
(Confidential)	Catheter Impregnation								1.2	1.20	0.17	4.13	0.75	0.00	N/A	100.00%	
(Confidential)	Catheter Impregnation								7.5	7.50	0.75	17.99	3.28	0.00	N/A	100.00%	
Paclitaxel Treatment																	
(Confidential)	Paclitaxel Treatment								6.6	6.60	0.54	13.07	2.38	0.00	N/A	100.00%	
(Confidential)	Paclitaxel Treatment								6.6	6.60	0.54	13.07	2.38	0.00	N/A	100.00%	
Total State Potential Emissions:											4.64	111.35	20.32	0.00			

Note:  
Shaded boxes indicate information is confidential.

Methodology:  
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids) \* Transfer Efficiency  
Total = Worst Coating + Sum of all solvents used  
Controlled emission rate = uncontrolled emission rate \* (1 - control efficiency)

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## Appendix A: Emission Calculations Uncontrolled Surface Coating HAP Emissions - Potential to Emit

Company Name: Cook Incorporated  
Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429  
Permit Renewal No.: 105-40744-00030  
Reviewer: Anh Nguyen

Potential To Emit							
Material	Process	Density (lb/gal)	Maximum Gal of Mat. (gal/hr)	Weight % Methanol	Weight % MIBK	Methanol Emissions (tons/yr)	MIBK Emissions (tons/yr)
(Confidential)	Plastic Tubing & Metal Wiring					0.01	0.00
(Confidential)	Plastic Tubing					0.00	0.00
(Confidential)	Catheter Impregnation					0.75	0.00
						0.76	0.00
							0.76

Note:

**Shaded boxes indicate information is confidential.**

### Methodology:

HAPs emission rate (tons/yr) = density (lb/gal) \* (gal/unit) \* (units/hour) \* weight % HAP \* % Flash Off \* (8,760 hrs/yr) \* (1 ton/2,000 lb)

**Appendix A: Emission Calculations**  
**Large Reciprocating Internal Combustion Engines - Diesel Fuel**  
**Output Rating (>600 HP)**  
**Maximum Input Rate (>4.2 MMBtu/hr)**

**Company Name: Cook Incorporated**  
**Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429**  
**Permit Renewal No.: 105-40744-00030**  
**Reviewer: Anh Nguyen**

**Emissions calculated based on output rating (hp)**

Output Horsepower Rating (hp)	4772.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	2,386,000
Sulfur Content (S) of Fuel (% by weight)	0.500

**Emergency Diesel Generators:**

Unit #1 (HP)	1850
Unit #2 (HP)	2922

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	4.05E-03 (.00809S)	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	0.84	0.48	0.48	4.83	28.63	0.84	6.56

\*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

\*\*NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

**Hazardous Air Pollutants (HAPs)**

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	6.48E-03	2.35E-03	1.61E-03	6.59E-04	2.10E-04	6.58E-05	1.77E-03

\*\*\*PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

\*\*\*\*Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>1.31E-02</b>
<b>gle HAP (benzene) (tons/yr) =</b>	<b>6.48E-03</b>

**Methodology**

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] \* [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] \* [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Emergency Generators

40744 calcs

**Appendix A: Emission Calculations  
Other Insignificant Activities**

**Company Name: Cook Incorporated**  
**Address: 6330 North Matthews Drive, Ellettsville, Indiana 47429**  
**Permit Renewal No.: 105-40744-00030**  
**Reviewer: Anh Nguyen**

The following emissions were calculated and approved with FESOP Second Renewal No. 105-27381-00030, issued August 24, 2009

<b>Total Potential To Emit (tons/year)</b>				
<b>Emissions Generating Activity</b>				
<b>Pollutant</b>	<b>Assembly Operations</b>	<b>Package Prep</b>	<b>Marking, Printing</b>	<b>TOTAL</b>
PM	0.14	0.00	0.00	0.14
PM10/PM2.5	0.14	0.00	0.00	0.14
SO2	0.00	0.00	0.00	0.00
NOx	0.00	0.00	0.00	0.00
VOC	0.11	0.18	0.03	0.32
CO	0.00	0.00	0.00	0.00
total HAPs	0.00	0.17	0.00	0.17
worst case single HAP	0.00	0.09	0.00	0.09

TCE

Trichloroethylene = TCE



## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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**Eric J. Holcomb**  
Governor

**Bruno L. Pigott**  
Commissioner

### SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Shawn Adams  
Cook Incorporated  
PO Box 489  
Bloomington, IN 47402-0489

DATE: August 30, 2019

FROM: Jenny Acker, Branch Chief  
Permits Branch  
Office of Air Quality

SUBJECT: Final Decision  
FESOP Renewal  
105-40744-00030

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
Derek Voskuil, General Manager  
Simon Thomas, Atlantic Design Engineers

In addition, the Notice of Decision has been sent to the OAQ Permits Branch Interested Parties List.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover Letter 1/9/2017



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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**Eric J. Holcomb**  
Governor

**Bruno L. Pigott**  
Commissioner

August 30, 2019

TO: Monroe County Public Library, Ellettsville

From: Jenny Acker, Branch Chief  
Permits Branch  
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**


**Applicant Name: Cook Incorporated**  
**Permit Number: 105-40744-00030**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures  
Final Library 1/9/2017

# Mail Code 61-53

IDEM Staff	TAWEAVER 8/30/2019 COOK INCORPORATED 105-40744-00030 (final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Shawn Adams COOK INCORPORATED PO Box 489 Bloomington IN 474020489 (Source CAATS) Sent via USPS Certified Mail										
2		Derek Voskuil General Manager COOK INCORPORATED PO Box 489 Bloomington IN 474020489 (RO CAATS)										
3		Monroe County Health Department 119 W 7th St Bloomington IN 47404-3989 (Health Department)										
4		Mr. Richard Monday 545 E. Margaret Dr. Terre Haute IN 47801 (Affected Party)										
5		Monroe County Commissioners Monroe County Courthouse, Room 322 Bloomington IN 47404 (Local Official)										
6		Ellettsville Town Council PO Box 8, 221 N. Salle St. Ellettsville IN 47429 (Local Official)										
7		Monroe County Public Library 600 West Temperance Street Ellettsville IN 47429 (Library)										
8		Simon Thomas Atlantic Design Engineers P.O. BOX 1051 Sandwich MA 02563 (Consultant)										
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